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Extreme Wind Speeds at 129 Stations in the Contiguous United States

U.S. DEPARTMENT OF COMMERCE • NATIONAL BUREAU OF STANDARDS

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Emil Simiu

Center for Building Technology
National Engineering Laboratory
National Bureau of Standards
Washington, D.C. 20234

Michael J. Changery

Environmental Data Information Service
National Climatic Center
National Oceanic and Atmospheric Administration
Asheville, North Carolina 28801

James J. Filliben

Center for Applied Mathematics
National Engineering Laboratory
National Bureau of Standards
Washington, D.C. 20234

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Jordan J. Baruch, Assistant Secretary for Science and Technology
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ABSTRACT

The purpose of this report is to present information on recorded and predicted wind speeds at 129 airport stations in the contiguous United States at which reliable records are available over a number of consecutive years. This information is provided to serve as basic documentation from which appropriate decisions can be made on values of design wind speeds to be specified in building codes and standards, and on special projects. Included in the report are: recorded wind speeds and anemometer elevations; predicted wind speeds based on probability distributions of the largest values; estimates of the sampling errors inherent in the predicted wind speeds; a description of the statistical procedure used in the analysis of the data; and a discussion of the results of the analysis.

Key Words: Building (codes); probability distribution functions; statistical analysis; storms; structural engineering; wind pressure; wind speeds.

ACKNOWLEDGMENTS

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REFERENCES A2

1. INTRODUCTION

The purpose of this report is to present information on extreme wind speeds at 129 airport stations in the contiguous United States at which reliable wind records are available over a number of consecutive years.

This information consists of:

1. Extreme yearly wind speeds, and the corresponding wind directions, recorded at each of the 129 stations. These data were obtained by the National Climatic Center from the original records. Thus, reading errors of original records and errors of transcription that have been determined to be present in Local Climatological Data (LCD) monthly and annual summaries* have been eliminated. The vast majority of the

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* A list of stations for which LCD summaries are available can be obtained from the National Climatic Center, Asheville, N.C. 28801. Summaries may be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

originally recorded data consisted of fastest-mile speeds. These have been listed without modification in the report. However, at a few stations, some of the recorded data consisted of fastest observed one-minute speeds. These have been transformed into fastest-mile speeds using a relation given in Section 2.1. It is these fastest-mile speeds that have been listed in the report in lieu of the orginally recorded fastest observed one-minute data. The stations and dates at which fastest-minute speeds were originally recorded are listed in Section 2.1.

A few of the wind speed data used herein represent estimates, rather than results of measurement. These data are identified in Section 2.2.

2. Anemometer elevations at which the largest yearly wind speeds were recorded.

3. Largest yearly wind speeds reduced to an elevation of 10m above ground (corrected speeds). These were obtained by using an expression given in Section 2.4.

4. Results of the statistical analysis of the corrected wind speed data. These results include:

- For each of the 129 sets of data, the predicted wind speeds corresponding to various return periods, based on the assumption that the Type I probability distribution of the largest values is a valid description of the extreme wind speeds

- for those sets of data that are best fit by a Type II probability distribution of the largest values, the predicted wind speeds corresponding to various return periods, based on that distribution

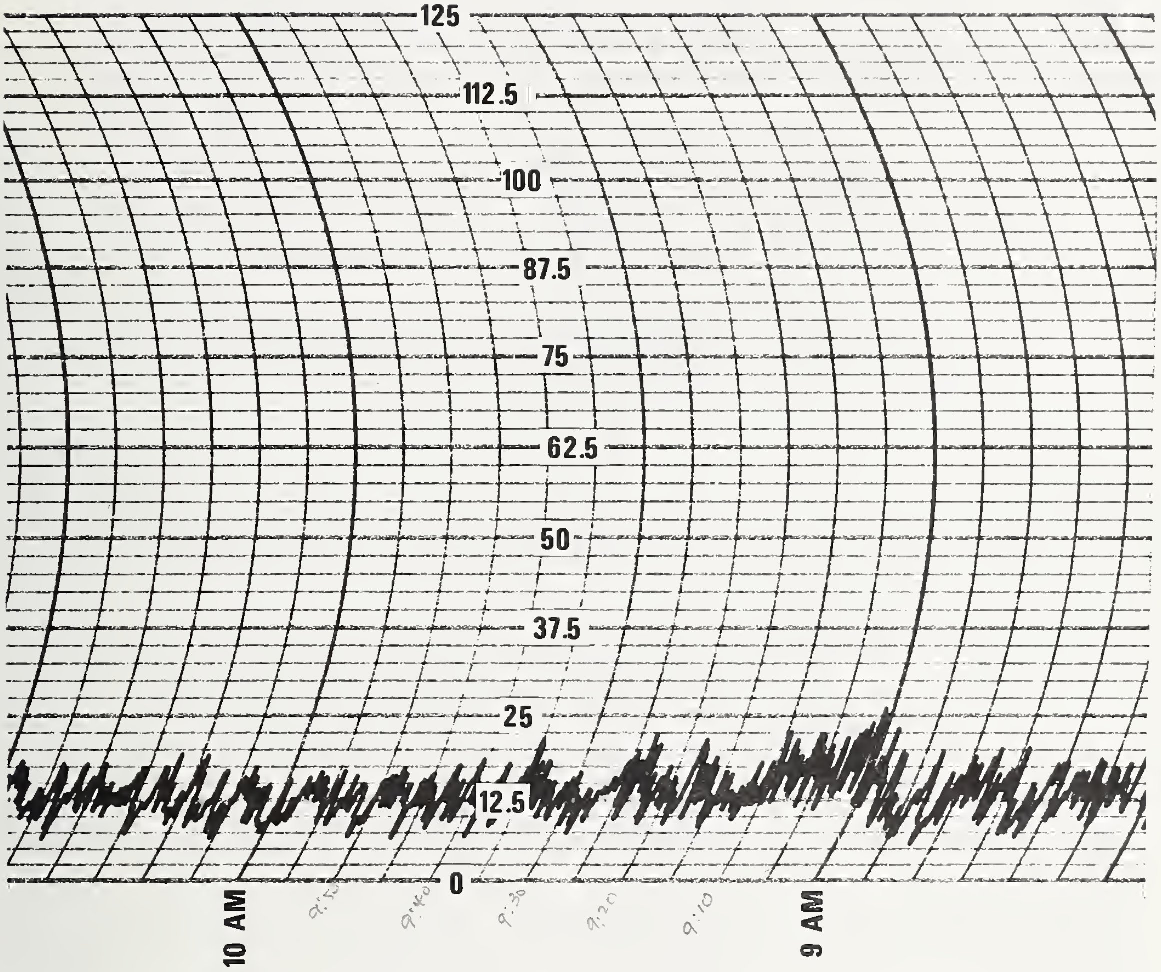
- estimates of the lower bound of the standard deviation of the errors inherent in the predicted speeds

- estimates (obtained by the method of moments) of the standard deviation of the errors inherent in the predicted speeds

Extreme wind speed predictions have been included for mean recurrence intervals of up to 1,000,000 years. However, in the writers' opinion, physical considerations suggest that predictions corresponding to mean recurrence intervals beyond a few hundred years should be regarded with caution.

A brief description of the procedure used in the analysis of the data is presented in Section 3. Section 3 includes a summary, and Sections 3.3 and 3.4 a discussion of the results of the statistical analysis. The information described under items 1 through 4 above is included in Section 4 of the report.

It is noted that at a number of stations the extreme yearly wind speed data may not provide a reliable basis for predicting extreme speeds. The results of the statistical analysis for these stations should therefore be regarded with caution. Stations for which such caution is in order are listed in Appendix 1.



2. WIND SPEED DATA

2.1 FASTEST OBSERVED ONE-MINUTE WIND SPEEDS

It was indicated in Section 1 that the vast majority of the original data used in this report consisted of fastest-mile wind speeds, i.e., speeds averaged over a time interval (in seconds) $t = 3600/v_f$, and v_f = the fastest-mile wind speed in miles per hour. However, at the following stations the original recorded maximum annual wind speed data consisted of fastest observed one-minute speeds during the periods indicated below:

Atlanta, Georgia	(1961 through 1963)
Indianapolis, Indiana	(1962-1963)
Boston, Massachusetts	(1954 through 1958)
Lansing, Michigan	(1955 through 1958)
Sault Ste Marie, Michigan	(1956 through 1965)

According to Reference 1, studies of the relationship between fastest observed one-minute to fastest-mile wind speeds undertaken at four weather stations "showed the mean regression between the two types of observation to be

$$v_f = 9.55 + 0.999\ v_m \qquad (2.1.1)$$

where v_f = fastest-mile speed in miles per hour and v_m = fastest-minute speed in the same hour as the fastest-mile, in miles per hour. Since the slope is very near unity and the mean difference very near 10, it has been assumed for some time that adding 10 mph to the fastest-minute would give an approximation to the fastest-mile". It is this relation which - in the absence of other information - has been used in this report.

While the writers are not certain that Eq. 2.1.1 provides a correct relation between v_f and v_m, they note that it results in estimates of v_f that are conservative from a structural safety point of view.

2.2 MEASURED AND ESTIMATED WIND SPEEDS

With relatively few exceptions the wind speed data used in this report were obtained by measurement. However, at the locations and dates noted below, the extreme annual speeds represent values estimated by the station operator, rather than measured values.

Birmingham, AL	(1973)
Tucson, AZ	(1967)
Sacramento, CA	(1967)
San Diego, CA	(1969)
Denver, CO	(1953)
Moline, IL	(1963)
Des Moines, IA	(1960)
Nantucket, MA	(1966)
Detroit, MI	(1957)
Grand Rapids, MI	(1964)
Jackson, MS	(1966)
Columbia, MO	(1969)
Kansas City, MO	(1971)
Springfield, MO	(1965 & 1971)
Billings, MT	(1959)
Fargo, ND	(1959 &1968)
Albany, NY	(1961)
Rochester, NY	(1958)
Syracuse, NY	(1974)
Cape Hatteras, NC	(1933, 1944 & 1948)
Tulsa, OK	(1959 and 1961)
Portland, OR	(1962)
Roseburg, OR	(1962)
Harrisburg, PA	(1952)
Rapid City, SD	(1962)

Nashville, TN	(1963 & 1972)
Abilene, TX	(1971)
Amarillo, TX	(1972)
Brownsville, TX	(1963)
Corpus Christi, TX	(1955, 1961 & 1970)
Port Arthur, TX	(1972)
Salt Lake City, UT	(1968)
Burlington, VT	(1968)
Lynchburg, VA	(1962 & 1967)

2.3 ROUGHNESS CONDITIONS AT AIRPORT STATIONS

In an attempt to ensure that the terrain roughness conditions are uniform among all the sets of data being analyzed, only airport stations have been considered herein. In principle, it may be assumed that at such stations open exposure conditions prevail. Nevertheless the mere fact that wind speed measurements are taken at an airport station does not necessarily ensure that the wind climatological conditions reflected by these measurements are identical, from the standpoint of the terrain exposure, to those prevailing at a different airport. For example, it is noted in Reference 2 that the estimated 50-year wind at Chicago Midway Airport is about 15 mph less than at the Chicago O'Hare airport. The probable reason for this difference is that the terrain around the Chicago Midway Airport is relatively heavily built-up. Similar considerations might explain to some extent the difference between the estimated 50-year winds at the Washington National Airport and the Baltimore-Washington International Airport, which are estimated in this report to be 66 mph and 75 mph respectively. Thus, in interpreting airport data for the purpose of developing wind maps, it is appropriate to take into account the possibility that, at the airport of concern, the terrain exposure conditions might differ somewhat from those defined as "open" (e.g., in Reference 3).

2.4 VARIATION OF WIND SPEED WITH HEIGHT ABOVE GROUND

To ensure the micrometeorological homogeneity of the data at any given station it is necessary to reduce all the wind speeds recorded at that station to a common elevation. The elevation chosen for this purpose is 10m above ground.

The mean wind profile near the ground in homogeneous terrain is given by the well-known logarithmic law, which may be written in the form:

$$U(z) = \frac{\ln \frac{z}{z_o}}{\ln \frac{10}{z_o}} U(10) \qquad (2.4.1)$$

where z = height above ground and z_o = roughness length, both expressed in meters. In open terrain, z_o may vary from, say, 0.03m to 0.10m. In this report the reduction of the data to an elevation of 10m is based on the assumption z_o = 0.05m. It can be verified that the errors inherent in the assumption z_o = 0.05m -- when in fact the values z_o = 0.03m or z_o = 0.10m were correct -- are small (of the order of 1% or 2%).

An approximation to Eq. 2.4.1 is given by the power law

$$U(z) = \left(\frac{z}{10}\right)^{\alpha} U(10) \tag{2.4.2}$$

where, for open terrain conditions, it is generally assumed $\alpha = 1/7$ (3). It is noted that Eq. 2.4.1, and therefore its approximate equivalent given by Eq. 2.4.2, is valid for mean wind speeds averaged over a relatively long time interval, e.g., one hour. The question thus arises of expressing the variation with height of the fastest-mile wind speed, which is averaged over a relatively short time (30 to 90s or so).

To obtain an approximate expression for the fastest-mile wind profile, note that it may be assumed, approximately,

$$\frac{U_{pk} - U_{fm}}{U_{pk} - U} \simeq \frac{1}{2} \tag{2.4.3}$$

where U_{pk} = peak wind speed, U_{fm} = fastest-mile speed, and U = hourly mean speed (see, e.g., Reference 4, p. 62). The expression for U_{pk} can, in open terrain, be written as

$$U_{pk}(z) \simeq U(z) + 3\,\overline{u'^2}^{\,1/2} \tag{2.4.4}$$

where $\overline{u'^2}^{\,1/2}$ = r.m.s of longitudinal velocity fluctuations, and

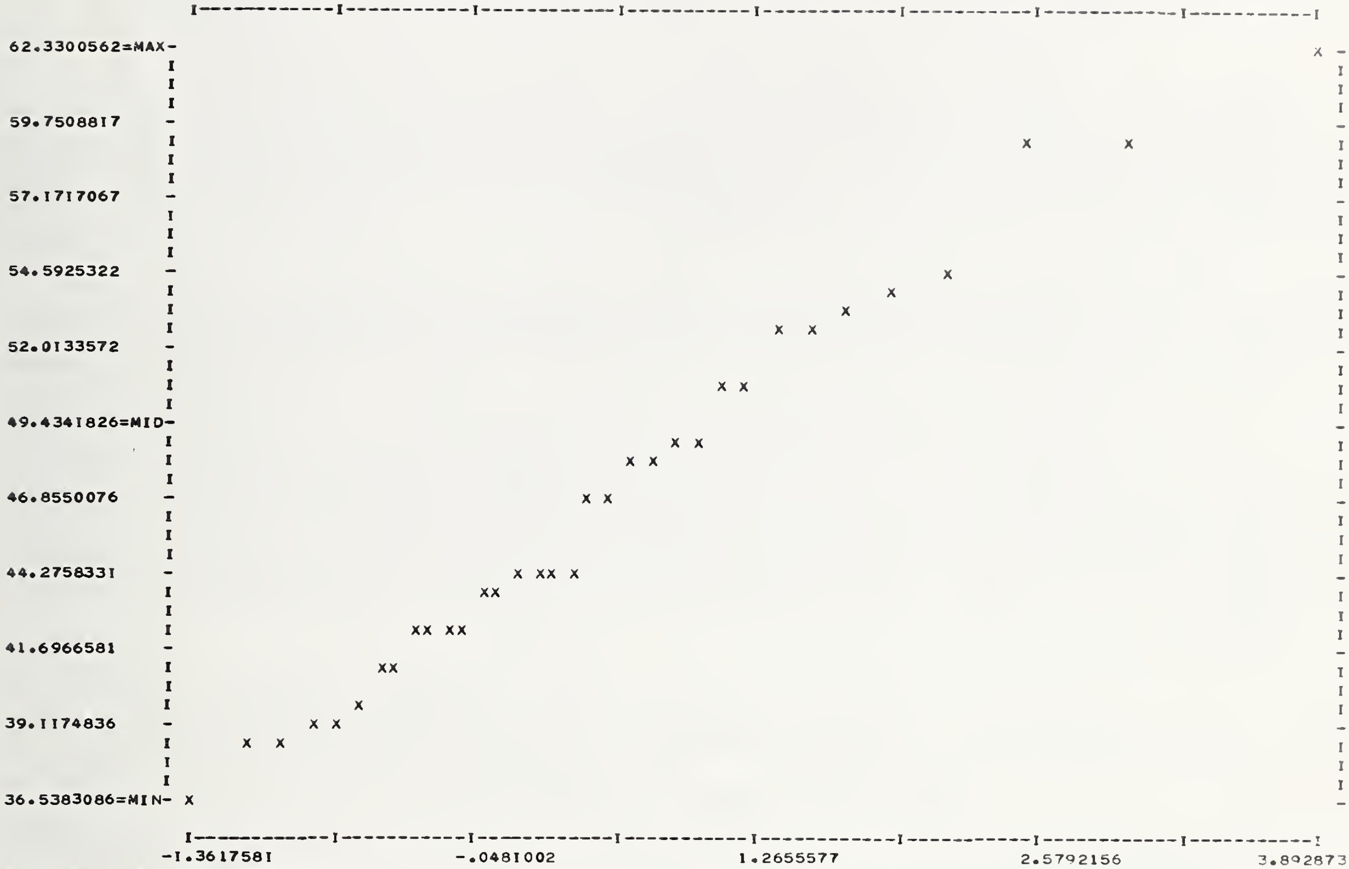
$$\overline{u'^2}^{\,1/2} \simeq \frac{U(10)}{\ln \frac{10}{z_o}} \tag{2.4.5}$$

where z_o is expressed in meters (see Reference 4, pp. 45 and 54).

It can be verified by using Equations 2.4.1, 2.4.3, 2.4.4 and 2.4.5 that, within the anenometer elevation range of interest in this report, it is possible to write approximately

$$\frac{U_{fm}(10)}{U_{fm}(z)} \simeq \frac{U(10)}{U(z)} \left(1 + \frac{z-10}{10} 0.02\right) \qquad (2.4.6)$$

where z is expressed in meters. The errors inherent in Equation 2.4.6 are of the order of -1 to 3%,the higher errors being on the conservative side (i.e., yielding slightly higher fastest-mile values at 10m above ground than would be obtained by a more "exact" expression). Eq. 2.4.6 has been employed to obtain the corrected speeds at 10m above ground in this report.



EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE)

3. STATISTICAL ANALYSIS

3.1 OBJECTIVE OF STATISTICAL PROCEDURE

Probabilistic considerations, as well as available empirical evidence suggest that the asymptotic probability distributions of the largest values with unlimited upper tail are an appropriate model for the behavior of the largest yearly wind speed. There are two such distributions, known as the Type I and Type II distributions of the largest values, whose cumulative distributions functions, $F_I(v)$ and $F_{II}(v)$, respectively, are of the form

$$F_I(v) = \exp\left[-\exp\left(-\frac{v-\mu}{\sigma}\right)\right];\ -\infty < v < \infty;$$

$$-\infty < \mu < \infty;\ 0 < \sigma < \infty$$

$$\text{and } F_{II}(v) = \exp\left[-\left(\frac{v-\mu}{\sigma}\right)^{-\gamma}\right];\ \mu < v < \infty\ ;$$

$$-\infty < \mu < \infty\ ;\ 0 < \sigma < \infty\ ;\quad \gamma > 0 \qquad (3.1.2)$$

in which μ, σ, and γ are location, scale, and tail length parameters, respectively. Actually, the Type I distribution may be shown to be a Type II distribution with $\gamma = \infty$ (see Reference 4, p. 422); however, it is convenient to refer to it separately.

The data were analyzed using -- with minor modifications -- a computer program listed in Reference 5. For convenience, the main features of the procedure used in the analysis of the data are summarized in this section.

The procedure consists of three distinct stages. In the first stage the value of γ (Eq. 3.1.2) is determined which yields the closest fit to the observed data set (recall that $\gamma = \infty$ corresponds to an extreme value type I distribution). The "closest fit" criterion used in this stage is the so-called maximum probability plot correlation coefficient criterion. The probability plot correlation coefficient is defined as

$$r_D = \mathrm{Corr}(X,M) = \frac{\Sigma(X_i - X)\ [M_i(D) - \overline{M(D)}]}{\{\Sigma(X_i - \overline{X})^2\ \Sigma[M_i(D) - \overline{M(D)}]^2\}^{1/2}} \qquad (3.1.3)$$

in which $\overline{X} = \Sigma X_i/n$; $\overline{M(D)} = \Sigma M_i(D)/n$; n=sample size; and D = probability distribution tested. The quantities X_i are obtained by a rearrangement of the data set: X_1 is the smallest; X_2 the second smallest; and X_i the ith smallest of the observations in the set. The quantities $M_i(D)$ are obtained as follows. Given a random variable X with probability distribution D and given an integer sample size n, it is possible from probabilistic considerations to derive mathematically the distributions of the smallest, second smallest, and generally the ith smallest values of X in a sample of size n. There are various quantities that can be utilized to measure the location of the distribution of the ith smallest value X_i (e.g., the mean, the median, or the mode). It is convenient to use the median as a measure of location in Eq. 3.1.3 -- these medians of the distribution of the ith smallest value being denoted by $M_i(D)$.

If the data set was generated by the distribution D, then aside from a location and scale factor, X_i will be approximately equal to $M_i(D)$ for all i, and so the plot of X_i versus $M_i(D)$ [referred to as probability plot] will be approximately linear. This linearity will, in turn, result in a near unity value in r_D. Thus, the better the fit of the distribution, D, to the data, the closer r_D will be to unity.

The procedure just described makes use of 46 extreme value Type II distributions defined by various values of γ from 1-25 in steps of 1, from 25-50 in steps of 5, from 50-100 in steps of 10, from 100-500 in steps of 50, from 500-1,000 in steps of 250, and $\gamma = \infty$. For any given data set, 46 probability plot correlation coefficients are computed corresponding to these distributions, and the distribution with the maximum probability plot correlation coefficient is chosen as the one which best fits the data (see, for example, computer output for Dallas, Texas, Section 4). The final result from this first stage is a value, γ_{opt}, of γ corresponding to the estimated best fitting distribution.

The second stage in the procedure consists of estimating the location and scale parameters, μ and σ, respectively, in Eqs. 3.1.1 and 3.1.2 for the observed data set and for the determined optimal value, γ_{opt}, as determined in stage 1. Estimates of the location and scale follow directly from the basic probability plot approach. If a least-squares line is fit to the probability plot corresponding to γ_{opt}, then the computed intercept and slope of the fitted line serve as estimates for the unknown location and scale parameters, μ and σ. In terms of the X_i and $M_i(D)$, these estimated location and scale values, $\hat{\mu}$ and $\hat{\sigma}$, are as follows:

$$\hat{\sigma} = \frac{\Sigma(X_i - \overline{X})[M_i(D) - \overline{M(D)}]}{\Sigma[M_i(D) - M(D)]^2} \qquad (3.1.4)$$

$$\hat{\mu} = \overline{X} - \hat{\sigma}\,\overline{M(D)} \qquad (3.1.5)$$

The third and final stage in the procedure determines the predicted wind speed v_N, for various intervals N of interest. The estimate for v_N is

$$v_N = \hat{\mu} + \hat{\sigma} G_{X_{\gamma_{opt}}}\left(1 - \frac{1}{N}\right) \qquad (3.1.6)$$

in which γ_{opt} = the optimal value of γ (as determined in stage 1); $\hat{\mu}$ and $\hat{\sigma}$ are the estimates of the location and scale parameters, μ and σ in Eqs. 3.1.1 and 3.1.2 (as determined in stage 2); and $G_{X\gamma_{opt}}(p)$ = the percentage point function of the best fitting extreme value distribution. If $\gamma_{opt} \neq \infty$ (i.e., if a member of the extreme value type II family provides the best fit), then

$$G_{X_{\gamma opt}}(p) = (-\ln p)^{-1/\gamma} \qquad (3.1.7)$$

If $\gamma_{opt} = \infty$ (i.e., if the extreme value type 1 distribution provides the best fit), then

$$G_{X_{\gamma opt}}(p) = -\ln(-\ln p) \qquad (3.1.8)$$

In effect, the procedure described in this section is an automated equivalent of probability paper plotting in which 46 types of probability paper, corresponding to 46 extreme value distributions, would be used and in which fitting would be carried out on the basis of the least-squares method, rather than by eye.

3.2 PROBABILITY PLOTS

A majority of the Type I probability plots generated by the computer from the data taken at the 129 stations fit a straight line reasonably well (see, e.g., plot included in computer output for Ely, Nevada, Section 4). However, in a number of cases the fit was relatively poor. A discussion of various reasons leading to a poor fit is presented in Section 3.5. To provide an idea of various types of deviations from a Type I distribution, probability plots were included in Section 4 for the following stations: Indianapolis, Indiana; Des Moines, Iowa; Topeka, Kansas; Wichita, Kansas; Boston, Massachusetts; Nantucket, Massachusetts; Detroit, Michigan; Grand Rapids, Michigan; Minneapolis, Minnesota; Missoula, Montana; Omaha, Nebraska; Valentine, Nebraska; Ely, Nevada; Albuquerque, New Mexico; Albany, New York; Abilene, Texas; and North Head, Washington.

3.3 ESTIMATION OF SAMPLING ERRORS

As indicated in Section 1, the computer output of Section 7 includes estimates of the standard deviation of the sampling errors, i.e., errors that are a consequence of the limited size of the data sample from which the Type I distribution parameters are estimated. Two such estimates were used. One estimate is based on the method of moments and has the following expression given by Gumbel in Reference 6 (pp. 10,174 and 228):

$$SD(\hat{v}_N) \approx \left[\frac{\pi^2}{6} + \frac{1.1396(y-0.5772)}{\sqrt{6}} + 1.1(y-0.5772)^2\right]^{1/2} \frac{\hat{\sigma}}{\sqrt{n}} \qquad (3.3.1)$$

in which $SD(\hat{v}_N)$ = the (estimated) standard deviation the sampling error in the estimation of the N-year wind

$$y = -\ln\left[-\ln\left(1 - \frac{1}{N}\right)\right] \qquad (3.3.2)$$

$\hat{\sigma}$ = the estimated value of the scale parameter; and n = the sample size.

A lower bound for the estimated sampling error is given by the following expression:

$$SD_{CR}(\hat{v}_N) \simeq (0.60793y^2 + 0.514y + 1.10866)^{1/2} \frac{\hat{\sigma}}{\sqrt{n}} \qquad (3.3.3)$$

where the notations are the same as in Equation 3.3.1. Equation 3.3.3 is commonly referred to as the Cramer-Rao lower bound (7).

3.4 SUMMARY OF RESULTS

The results of the analysis are summarized in Table 3.4.1, in which the following notations are used:

n = sample size

$\overline{X}$ = sample mean

s = sample standard deviation

v_{max} = sample maximum

γ_{opt} = value of optimal tail length parameter (see section 3.1)

$\hat{v}_n$ = estimated extreme wind corresponding to a n-year return period, based on Type I distribution

ppcc = probability plot correlation coefficient (see Section 3.1) for Type I distribution

$\hat{v}_{50}$ = estimated 50-year wind speed

$SD(\hat{v}_{50})$ = estimated standard deviation of sampling error for 50-year wind speed.

Table 3.4.1 Summary of Results

		n	$\overline{X}$	$s/\overline{X}$	v_{max}	$v_{max}/\hat{v}_n$	γ_{opt}	ppcc$^{(a)}$	$\hat{v}_{50}$$^{(a)}$	SD($\hat{v}_{50}$)$^{(b)}$
1.	Birmingham, Alabama	34	46.6	0.139	62.3	1.00	∞	.99085	65	4
2.	Montgomery, Alabama	28	45.3	0.185	76.7	1.20	3	.95241	68	5
3.	Prescott, Arizona	17	52.2	0.169	66.0	0.96	∞	.95262	76	7
4.	Tucson, Arizona	30	51.4	0.167	77.7	1.09	∞	.97064	75	5
5.	Yuma, Arizona	29	48.9	0.157	65.1	0.98	∞	.98549	70	5
6.	Fort Smith, Arkansas	26	46.6	0.150	60.7	0.98	∞	.95078	65	5
7.	Little Rock, Arkansas	35	46.7	0.206	72.2	1.03	13	.98663	73	5
8.	Fresno, California	37	34.4	0.140	46.5	1.00	∞	.99385	47	3
9.	Red Bluff, California	33	52.1	0.141	67.3	0.97	∞	.96970	72	4
10.	Sacramento, California	29	46.0	0.223	67.8	0.97	∞	.97737	74	6
11.	San Diego, California	38	34.5	0.130	46.6	1.02	∞	.97803	47	2
12.	Denver, Colorado	27	49.2	0.096	62.3	1.02	∞	.98755	62	3
13.	Grand Junction, Colorado	31	52.7	0.102	69.9	1.07	10	.98060	67	3
14.	Pueblo, Colorado	37	62.8	0.118	79.2	0.98	∞	.98362	83	4
15.	Hartford, Connecticut	38	45.1	0.151	66.8	1.08	8	.98738	64	4
16.	Washington, D.C.	33	48.3	0.135	66.3	1.04	∞	.98466	66	4
17.	Jacksonville, Florida$^{(c)}$	28	48.6	0.206	74.4	1.04	12	.98068	76	6
18.	Key West, Florida$^{(c)}$	19	51.0	0.337	89.5	1.06	6	.96796	99	13
19.	Tampa, Florida$^{(c)}$	10	49.6	0.163	65.1	1.05	∞	.99226	74	9
20.	Atlanta, Georgia	42	47.4	0.195	75.5	1.06	70	.99613	73	5
21.	Macon, Georgia	28	45.0	0.169	59.7	0.96	∞	.97855	66	5
22.	Savannah, Georgia$^{(c)}$	32	47.6	0.202	79.3	1.13	6	.97840	74	6
23.	Boise, Idaho	38	47.8	0.111	61.9	1.01	∞	.99195	62	3
24.	Pocatello, Idaho	39	53.3	0.128	71.6	1.02	∞	.97231	72	4
25.	Chicago, Illinois	35	47.0	0.102	58.6	1.00	∞	.98819	60	3
26.	Moline, Illinois	34	54.8	0.141	72.1	0.98	∞	.98027	76	4
27.	Peoria, Illinois	35	52.0	0.134	70.2	1.02	350	.99462	71	4
28.	Springfield, Illinois	30	54.2	0.111	70.6	1.04	9	.98082	70	4
29.	Evansville, Indiana	37	46.7	0.130	61.3	1.00	∞	.96240	63	3
30.	Fort Wayne, Indiana	36	53.0	0.125	69.0	1.00	∞	.98389	71	4
31.	Indianapolis, Indiana	34	55.4	0.200	93.0	1.12	4	.97030	86	6
32.	Burlington, Iowa	23	56.0	0.164	71.9	0.95	∞	.96831	81	6
33.	Des Moines, Iowa	27	57.7	0.147	79.9	1.04	∞	.98917	81	5
34.	Sioux City, Iowa	36	57.9	0.157	88.1	1.10	11	.98660	83	5
35.	Concordia, Kansas	16	57.6	0.160	73.7	0.97	∞	.96693	85	8
36.	Dodge City, Kansas	35	60.6	0.099	71.5	0.95	∞	.96823	77	3
37.	Topeka, Kansas	28	54.5	0.150	78.8	1.08	7	.97767	77	5
38.	Wichita, Kansas	37	58.1	0.146	89.5	1.13	8	.97908	80	5
39.	Louisville, Kentucky	32	49.3	0.136	65.7	1.00	∞	.98870	68	4
40.	Shreveport, Louisiana	11	44.6	0.121	53.4	1.00	∞	.97409	60	5
41.	Portland, Maine	37	48.5	0.179	72.8	1.04	7	.97810	72	5
42.	Baltimore, Maryland	29	55.9	0.123	71.2	0.99	∞	.97826	75	4
43.	Boston, Massachusetts$^{(c)}$	42	56.3	0.172	81.4	1.05	16	.99598	83	5
44.	Nantucket, Massachusetts$^{(c)}$	23	56.7	0.141	71.3	0.97	∞	.97294	79	6
45.	Detroit, Michigan	44	48.9	0.140	67.6	1.01	∞	.98953	67	3

46.	Grand Rapids, Michigan	27	48.3	0.209	66.8	0.94	∞	.96946	76	6
47.	Lansing, Michigan	29	53.0	0.125	67.0	0.98	∞	.98360	71	4
48.	Sault Ste Marie, Michigan	37	48.4	0.159	67.0	0.99	∞	.98835	69	4
49.	Duluth, Minnesota	28	50.9	0.151	69.6	1.01	∞	.99249	72	5
50.	Minneapolis, Minnesota	40	49.2	0.185	81.6	1.14	4	.97068	73	5
51.	Jackson, Mississippi	29	45.9	0.155	64.4	1.03	40	.98574	66	4
52.	Columbia, Missouri	28	50.2	0.129	62.4	0.97	∞	.94496	67	4
53.	Kansas City, Missouri	44	50.5	0.155	75.2	1.06	500	.99408	72	4
54.	St. Louis, Missouri	19	47.4	0.156	65.7	1.06	∞	.97461	68	6
55.	Springfield, Missouri	37	50.1	0.148	71.2	1.04	50	.98845	70	4
56.	Billings, Montana	39	59.4	0.135	84.2	1.06	∞	.99193	81	4
57.	Great Falls, Montana	34	59.0	0.110	74.2	1.00	∞	.97365	77	4
58.	Havre, Montana	17	58.0	0.159	77.7	1.03	40	.97252	84	8
59.	Helena, Montana	38	55.2	0.118	71.2	1.14	∞	.98203	73	4
60.	Missoula, Montana	33	48.3	0.122	70.9	1.14	4	.96352	64	3
61.	North Platte, Nebraska	29	62.0	0.108	74.4	0.96	∞	.97417	80	4
62.	Omaha, Nebraska	42	55.0	0.195	104.0	1.28	3	.94035	83	6
63.	Valentine, Nebraska	22	60.6	0.142	74.1	0.95	∞	.95559	84	6
64.	Ely, Nevada	39	52.9	0.117	70.1	1.02	∞	.99318	70	3
65.	Las Vegas, Nevada	13	54.7	0.128	70.1	1.05	13	.98687	75	7
66.	Reno, Nevada	36	56.5	0.141	76.6	1.00	∞	.99298	79	4
67.	Winnemucca, Nevada	28	50.2	0.142	62.6	0.95	∞	.95996	69	5
68.	Concord, New Hampshire	37	42.9	0.195	68.5	1.08	9	.98926	66	5
69.	Albuquerque, New Mexico	45	57.2	0.136	84.8	1.09	7	.98635	78	4
70.	Roswell, New Mexico	31	58.2	0.153	81.6	1.03	∞	.98116	83	5
71.	Albany, New York	40	47.9	0.140	68.5	1.06	6	.97576	66	4
72.	Binghamton, New York	27	49.2	0.130	63.8	1.00	∞	.99016	67	4
73.	Buffalo, New York	34	53.9	0.132	78.6	1.11	8	.97908	73	4
74.	New York, New York(c)	31	50.3	0.143	61.4	0.93	∞	.9300	69	4
75.	Rochester, New York	37	53.5	0.097	65.4	0.99	∞	.98338	68	3
76.	Syracuse, New York	37	50.3	0.121	67.2	1.03	∞	.98827	67	3
77.	Cape Hatteras, N. Carolina(c)	45	58.0	0.214	103.0	1.14	6	.98108	91	5
78.	Charlotte, N. Carolina	27	44.7	0.168	64.6	1.05	∞	.97374	65	5
79.	Greensboro, N. Carolina	48	42.3	0.180	66.8	1.07	6	.98239	63	4
80.	Wilmington, N. Carolina(c)	26	49.9	0.218	84.3	1.14	4	.97311	80	7
81.	Bismarck, North Dakota	38	58.3	0.096	68.9	0.96	∞	.96635	73	3
82.	Fargo, North Dakota	36	59.4	0.185	100.5	1.17	5	.97527	89	6
83.	Williston, North Dakota	16	56.5	0.117	69.3	1.00	∞	.98686	75	6
84.	Cleveland, Ohio	35	52.7	0.125	68.5	1.00	∞	.97810	70	4
85.	Columbus, Ohio	26	49.4	0.133	61.3	0.96	∞	.97303	67	4
86.	Dayton, Ohio	35	53.6	0.142	72.0	1.00	∞	.98306	74	4
87.	Toledo, Ohio	35	50.8	0.177	82.2	1.13	11	.98360	75	5
88.	Oklahoma City, Oklahoma	26	54.0	0.110	69.3	1.03	30	.99422	71	4
89.	Tulsa, Oklahoma	35	47.9	0.145	68.3	1.05	150	.98115	67	4
90.	Portland, Oregon	28	52.6	0.196	87.9	1.16	4	.96907	81	7
91.	Roseburg, Oregon	12	35.6	0.169	51.1	1.14	2	.95775	53	6
92.	Harrisburg, Pennsylvania	39	45.7	0.164	64.4	1.00	∞	.98849	66	4
93.	Philadelphia, Pennsylvania(c)	23	49.5	0.115	62.4	1.00	150	.99008	66	4
94.	Pittsburgh, Pennsylvania	18	48.4	0.120	59.6	1.00	∞	.98221	65	5
95.	Scranton, Pennsylvania	23	44.6	0.107	54.2	0.99	∞	.98344	58	3
96.	Block Island, Rhode Island(c)	31	61.4	0.142	86.2	1.06	7	.97591	85	5

97. Greenville, South Carolina	36	48.5	0.226	71.9	0.95	∞	.98512	78	6
98. Huron, South Dakota	39	61.4	0.132	78.8	0.96	∞	.97919	83	4
99. Rapid City, South Dakota	36	61.0	0.087	70.5	0.96	∞	.92675	75	3
100. Chattanooga, Tennessee	35	47.8	0.218	75.9	1.04	12	.98779	76	6
101. Knoxville, Tennessee	33	48.8	0.141	65.9	1.01	∞	.98045	68	4
102. Memphis, Tennessee	21	45.4	0.137	60.7	1.04	10	.97829	63	5
103. Nashville, Tennessee	34	46.8	0.171	70.2	1.06	8	.98665	69	5
104. Abilene, Texas	34	54.7	0.192	99.9	1.27	3	.93065	82	6
105. Amarillo, Texas	34	61.0	0.117	80.7	1.03	∞	.97987	80	4
106. Austin, Texas	35	45.1	0.122	58.0	1.00	∞	.97715	60	3
107. Brownsville, Texas(c)	35	43.7	0.185	66.1	1.04	20	.99440	66	5
108. Corpus Christi, Texas(c)	34	54.5	0.288	127.8	1.45	2	.87186	92	9
109. Dallas, Texas	32	49.1	0.132	66.8	1.03	30	.99392	67	4
110. El Paso, Texas	32	55.4	0.087	66.7	1.00	∞	.97912	69	3
111. Port Arthur, Texas(c)	25	53.1	0.181	81.0	1.09	11	.99098	80	6
112. San Antonio, Texas	36	47.0	0.183	79.5	1.14	3	.96353	70	5
113. Salt Lake City, Utah	36	50.6	0.142	69.0	1.00	∞	.99384	70	4
114. Burlington, Vermont	34	45.7	0.160	66.5	1.05	14	.98801	66	4
115. Lynchburg, Virgina	34	40.9	0.149	53.4	0.96	∞	.95527	57	4
116. Norfolk, Virginia(c)	20	48.9	0.182	68.9	1.03	∞	.99284	74	7
117. Richmond, Virginia	27	42.2	0.152	61.3	1.08	35	.98752	60	4
118. North Head, Washington	41	71.5	0.141	104.4	1.09	3	.94329	98	5
119. Quillayute, Washington	11	36.5	0.085	41.9	1.01	∞	.95120	45	3
120. Seattle, Washington	10	41.9	0.080	49.3	1.00	∞	.91433	51	4
121. Spokane, Washington	37	47.8	0.133	64.6	1.01	∞	.97885	65	4
122. Tatoosh Island, Washington	54	66.0	0.106	85.6	.99	∞	.98811	85	3
123. Green Bay, Wisconsin	29	56.6	0.212	103.0	1.24	4	.94101	88	8
124. Madison, Wisconsin	31	55.7	0.190	80.2	1.00	45	.98207	85	6
125. Milwaukee, Wisconsin	37	53.7	0.121	67.9	0.97	∞	.98670	71	4
126. Cheyenne, Wyoming	42	60.5	0.093	72.6	0.98	∞	.96510	75	3
127. Lander, Wyoming	32	61.2	0.160	80.4	0.96	∞	.97563	88	6
128. Sheridan, Wyoming	37	61.5	0.116	82.0	1.04	∞	.97227	81	4
129. Elkins, West Virginia	10	51.1	0.160	68.5	1.08	13	.98313	75	11

(a) Corresponding to a Type I distribution

(b) Estimated by method of moments

(c) At this station the largest yearly wind speed data may not provide a reliable basis for predicting extreme winds - see Appendix 1

3.5 TYPE I VERSUS TYPE II DISTRIBUTION

Of the 129 stations listed in Table 3.4.1, 15 stations [marked with the superscript (c) in Table 3.4.1 and listed in Appendix 1] have been noted to have largest yearly speed records that may not provide a reliable basis for predicting extreme winds. The remaining 114 stations may be divided into three categories characterized by the value of the optimal tail length parameter γ_{opt}, as shown in Table 3.5.1.

Table 3.5.1 Classification of Stations According to Value of γ_{opt}

Category	Range of γ_{opt}	Number of Stations	Percentage
I	$13 \leq \gamma_{opt} < \infty$	89	78%
II	$7 \leq \gamma_{opt} < 13$	11	10%
III	$2 \leq \gamma_{opt} < 7$	14	12%

The sample size for the stations of Table 3.5.1 varies between n=10 and n=45.

It is noted that the percentages of Table 3.5.1 are in qualitative agreement with those found from the analysis reported in Reference 8, in which all sample sizes were n = 37. This tends to confirm the hypothesis advanced in Reference 8 to the effect that, for stations in well-behaved wind climates, the best fit of a Type II (rather than Type I) distribution to a set of extreme wind data might be attributed to a sampling error in the estimation of the tail length parameter. This hypothesis does not exclude the possibility that stations exist for which a Type II distribution might provide an appropriate description of the wind climate; however, according to the results of both Reference 8 and Table 3.5.1, the number of such stations, if they exist, is very likely to be small. Thus, it appears justified to assume, as in Reference 8, that the Type I distribution of the largest values provides in general a better description of the wind climate than Type II distributions with small values of the tail length parameter (say, $2 \leq \gamma \leq 12$).

3.6 LARGEST WIND SPEED IN A SAMPLE OF SIZE N AND THE N-YEAR WIND

It is shown in Reference 9 (see also Reference 4, p. 423) that, if a variate X has a Type I distribution, the mode of the largest value in a sample of n values of X is very nearly equal to the value of the variate corresponding to the mean return period n (recall that the mode of a variate X is the value of that variable most likely to occur in any given trial). It can be seen from Table 3.5.1 that, for most sets for which γ_{opt} is large, the ratio $v_{max}/\hat{v}_n$ is indeed close to unity.

4. WIND SPEED AND DIRECTION DATA, AND COMPUTER INPUT AND OUTPUT

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   BIRMINGHAM,ALABAMA (1944-1977). REFER TO SECT. 2.2

         THE SAMPLE NUMBER OF OBSERVATIONS =       34.00
         THE SAMPLE MEAN                   =       46.64
         THE SAMPLE STANDARD DEVIATION     =        6.50
         THE SAMPLE MINIMUM                =       36.54
         THE SAMPLE MAXIMUM                =       62.33

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

11/30/44      63.                52.  N                       47.
07/09/45      63.                54. NW                       49.
06/09/46      63.                49.  N                       44.
03/24/47      63.                48.  W                       44.
02/13/48      63.                47. SW                       43.
08/28/49      63.                49. NW                       44.
05/02/50      63.                47.  W                       43.
05/03/51      63.                65. NW                       59.
03/10/52      63.                60. SE                       54.
03/22/53      63.                47.  W                       43.
02/28/54      63.                48. SW                       44.
03/21/55      63.                65. SW                       59.
04/15/56      63.                56. SW                       51.
06/28/57      63.                56. SW                       51.
02/28/58      63.                45. SW                       41.
07/12/59      63.                52. SE                       47.
02/04/60      63.                59. SE                       54.
03/18/61      63.                54. NE                       49.
08/05/62      63.                43.  N                       39.
07/24/63      63.                47. NE                       43.
03/04/64      63.                43.  S                       39.
04/12/65      63.                49.  W                       44.
02/10/66      22.                36. SE                       39.
03/06/67      22.                41. SW                       44.
11/28/68      22.                37. SW                       40.
06/19/69      22.                45. SW                       48.
08/01/70      22.                34. NW                       37.
02/04/71      22.                38. SW                       41.
04/16/72      22.                36. SW                       39.
05/11/73      22.                58.  W                       62.
02/21/74      22.                45. SW                       48.
01/10/75      22.                49.  W                       53.
03/20/76      22.                50.  W                       54.
04/04/77      22.                49.  W                       53.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	45.63	1.02	1.02
3.0	48.50	1.25	1.30
4.0	50.33	1.43	1.54
5.0	51.69	1.57	1.73
6.0	52.77	1.68	1.88
7.0	53.67	1.78	2.02
8.0	54.43	1.87	2.13
9.0	55.10	1.94	2.24
10.0	55.70	2.01	2.33
20.0	59.55	2.46	2.94
30.0	61.76	2.73	3.30
34.0	62.44	2.81	3.42
40.0	63.32	2.91	3.56
50.0	64.53	3.06	3.76
60.0	65.51	3.18	3.92
70.0	66.34	3.28	4.06
80.0	67.06	3.37	4.18
90.0	67.69	3.45	4.28
100.0	68.26	3.52	4.38
200.0	71.97	3.98	5.00
300.0	74.15	4.25	5.37
400.0	75.69	4.44	5.63
500.0	76.88	4.59	5.83
600.0	77.85	4.71	5.99
700.0	78.68	4.81	6.13
800.0	79.39	4.90	6.25
900.0	80.02	4.98	6.36
1000.0	80.59	5.05	6.45
2000.0	84.29	5.51	7.08
3000.0	86.46	5.78	7.45
4000.0	88.00	5.98	7.71
5000.0	89.19	6.13	7.91
6000.0	90.16	6.25	8.07
7000.0	90.99	6.35	8.21
8000.0	91.70	6.44	8.33
9000.0	92.33	6.52	8.44
10000.0	92.90	6.59	8.54
50000.0	101.50	7.68	10.00
100000.0	105.20	8.14	10.63
500000.0	113.81	9.23	12.09
1000000.0	117.51	9.70	12.72

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    MONTGOMERY,ALABAMA (1950-1977)


        THE SAMPLE NUMBER OF OBSERVATIONS =       28.00
        THE SAMPLE MEAN                   =       45.28
        THE SAMPLE STANDARD DEVIATION     =        8.44
        THE SAMPLE MINIMUM                =       34.39
        THE SAMPLE MAXIMUM                =       76.73


  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                         AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

12/06/50      34.               43.  E                     43.
08/06/51      34.               43. SW                     43.
03/10/52      34.               60. SW                     60.
06/10/53      34.               51. NW                     51.
07/14/54      34.               51.  E                     51.
05/13/55      34.               48. SW                     48.
12/15/56      34.               46. SW                     46.
04/01/57      34.               52.  E                     52.
01/31/58      34.               43. SW                     43.
01/21/59      22.               32.  S                     34.
01/14/60      22.               47. SW                     51.
03/08/61      22.               43.  W                     46.
07/07/62      22.               34.  N                     37.
03/05/63      22.               37.  W                     40.
03/04/64      22.               43.  S                     46.
05/22/65      22.               44. SW                     47.
02/13/66      22.               37.  W                     40.
03/06/67      22.               35.  W                     38.
12/28/68      23.               38.  W                     40.
03/24/69      23.               34. SW                     36.
04/02/70      23.               38.  S                     40.
02/26/71      23.               38.  W                     40.
03/16/72      23.               44.  W                     47.
12/26/73      23.               34.  S                     36.
03/21/74      23.               46. SW                     49.
01/10/75      23.               72.  W                     77.
09/03/76      23.               40.  N                     43.
03/04/77      23.               43. SW                     46.
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RETURN PERIOD      PREDICTED EXTREME WIND       PREDICTED EXTREME WIND     ESTIMATED      ESTIMATED
 (IN YEARS)          BASED ON OPTIMAL               BASED ON               STAN. DEV.     STAN. DEV.
                   EXTREME VALUE TYPE 2.       EXTREME VALUE TYPE 1      SAMPL. ERROR   SAMPL. ERROR
                      DISTRIBUTION                 DISTRIBUTION           CRAMER-RAO    METH. OF MOM.
                   (GAMMA =       3.00000)

      2.0                  42.90                       44.03                 1.46           1.47
      3.0                  45.86                       47.63                 1.79           1.86
      4.0                  48.05                       49.94                 2.04           2.20
      5.0                  49.85                       51.65                 2.24           2.47
      6.0                  51.39                       53.01                 2.41           2.69

      7.0                  52.75                       54.14                 2.55           2.88
      8.0                  53.97                       55.10                 2.67           3.05
      9.0                  55.10                       55.95                 2.78           3.20
     10.0                  56.13                       56.70                 2.88           3.33
     20.0                  63.83                       61.54                 3.52           4.21

     28.0                  68.21                       63.85                 3.83           4.64
     30.0                  69.17                       64.32                 3.90           4.73
     40.0                  73.40                       66.29                 4.17           5.09
     50.0                  76.97                       67.80                 4.38           5.38
     60.0                  80.08                       69.04                 4.55           5.61

     70.0                  82.86                       70.09                 4.69           5.81
     80.0                  85.39                       70.99                 4.82           5.98
     90.0                  87.71                       71.79                 4.93           6.13
    100.0                  89.86                       72.50                 5.03           6.26
    200.0                 106.08                       77.18                 5.69           7.15

    300.0                 117.44                       79.91                 6.07           7.68
    400.0                 126.48                       81.85                 6.35           8.05
    500.0                 134.11                       83.35                 6.56           8.33
    600.0                 140.78                       84.58                 6.73           8.57
    700.0                 146.74                       85.62                 6.88           8.77

    800.0                 152.16                       86.51                 7.01           8.94
    900.0                 157.15                       87.31                 7.12           9.09
   1000.0                 161.78                       88.02                 7.22           9.23
   2000.0                 196.63                       92.68                 7.89          10.12
   3000.0                 221.07                       95.41                 8.27          10.65

   4000.0                 240.53                       97.34                 8.55          11.02
   5000.0                 256.97                       98.84                 8.76          11.31
   6000.0                 271.33                      100.07                 8.94          11.55
   7000.0                 284.18                      101.11                 9.09          11.75
   8000.0                 295.85                      102.00                 9.22          11.92

   9000.0                 306.58                      102.80                 9.33          12.07
  10000.0                 316.56                      103.51                 9.43          12.21
  50000.0                 521.61                      114.33                10.98          14.30
 100000.0                 649.98                      118.99                11.65          15.20
 500000.0                1092.27                      129.83                13.21          17.30

1000000.0                1368.97                      134.49                13.87          18.20
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      PRESCOTT,ARIZONA (1948-1964)

           THE SAMPLE NUMBER OF OBSERVATIONS =       17.00
           THE SAMPLE MEAN                   =       52.24
           THE SAMPLE STANDARD DEVIATION     =        8.80
           THE SAMPLE MINIMUM                =       38.59
           THE SAMPLE MAXIMUM                =       66.01

   DATE      ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
            ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                            AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

04/10/48       30.                45. SW                          46.
12/10/49       30.                38. SW                          39.
05/25/50       30.                45.  W                          46.
12/31/51       30.                38. SW                          39.
04/07/52       30.                38. SW                          39.
04/27/53       30.                56. SW                          57.
03/17/54       30.                65. SW                          66.
05/31/55       30.                60. SE                          61.
02/16/56       37.                65. SW                          64.
04/06/57       37.                65. SW                          64.
04/22/58       37.                51. SW                          50.
07/17/59       37.                50. NW                          49.
04/23/60       37.                52. SW                          51.
04/07/61       37.                56.  S                          55.
01/20/62       37.                56. SW                          55.
03/02/63       37.                56. SE                          55.
11/13/64       37.                56. SW                          55.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	50.98	1.96	1.96
3.0	54.85	2.40	2.49
4.0	57.32	2.73	2.94
5.0	59.15	3.00	3.30
6.0	60.61	3.22	3.60
7.0	61.82	3.41	3.86
8.0	62.86	3.58	4.08
9.0	63.76	3.72	4.28
10.0	64.56	3.85	4.46
17.0	68.55	4.51	5.36
20.0	69.75	4.71	5.63
30.0	72.74	5.22	6.32
40.0	74.84	5.58	6.81
50.0	76.47	5.86	7.20
60.0	77.80	6.09	7.51
70.0	78.92	6.28	7.77
80.0	79.89	6.45	8.00
90.0	80.74	6.60	8.20
100.0	81.50	6.73	8.38
200.0	86.52	7.61	9.57
300.0	89.45	8.13	10.27
400.0	91.53	8.49	10.77
500.0	93.14	8.78	11.15
600.0	94.45	9.01	11.47
700.0	95.56	9.21	11.73
800.0	96.53	9.38	11.96
900.0	97.38	9.53	12.17
1000.0	98.14	9.66	12.35
2000.0	103.14	10.55	13.55
3000.0	106.06	11.07	14.25
4000.0	108.13	11.44	14.75
5000.0	109.74	11.73	15.14
6000.0	111.06	11.96	15.45
7000.0	112.17	12.16	15.72
8000.0	113.13	12.33	15.95
9000.0	113.98	12.49	16.16
10000.0	114.74	12.62	16.34
50000.0	126.35	14.70	19.14
100000.0	131.34	15.59	20.34
500000.0	142.96	17.67	23.15
1000000.0	147.95	18.57	24.36

TUCSON,ARIZONA (1948-1977). REFER TO SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 30.00
THE SAMPLE MEAN = 51.38
THE SAMPLE STANDARD DEVIATION = 8.61
THE SAMPLE MINIMUM = 36.97
THE SAMPLE MAXIMUM = 77.72

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
07/19/48	36.	52.	NW	51.
12/10/49	33.	44.	W	44.
07/01/50	33.	51.	NW	51.
11/17/51	33.	55.	E	55.
02/26/52	33.	59.	E	59.
07/11/53	33.	43.	E	43.
07/10/54	33.	44.	S	44.
08/30/55	33.	44.	NE	44.
08/12/56	33.	37.	SE	37.
07/04/57	33.	42.	SE	42.
08/31/58	33.	44.	E	44.
07/11/59	23.	54.	S	58.
09/30/60	23.	54.	SE	58.
08/08/61	23.	54.	E	58.
07/29/62	23.	54.	W	58.
11/07/63	23.	52.	W	55.
07/24/64	23.	54.	S	58.
07/08/65	23.	54.	SE	58.
08/08/66	23.	47.	SE	50.
07/31/67	23.	40.	W	43.
07/18/68	20.	50.	E	55.
08/07/69	20.	54.	NE	59.
07/19/70	20.	59.	W	65.
07/16/71	20.	71.	SE	78.
09/01/72	20.	47.	N	51.
07/11/73	20.	38.	SW	42.
07/01/74	20.	43.	E	47.
11/28/75	20.	45.	S	49.
05/04/76	20.	38.	W	42.
07/31/77	20.	43.	NE	47.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	50.07	1.44	1.44
3.0	53.81	1.76	1.84
4.0	56.20	2.01	2.16
5.0	57.98	2.21	2.43
6.0	59.38	2.37	2.65
7.0	60.55	2.51	2.84
8.0	61.56	2.63	3.01
9.0	62.43	2.74	3.15
10.0	63.21	2.84	3.29
20.0	68.22	3.47	4.15
30.0	71.11	3.84	4.66
30.0	71.11	3.84	4.66
40.0	73.15	4.11	5.02
50.0	74.72	4.31	5.30
60.0	76.00	4.48	5.53
70.0	77.09	4.63	5.72
80.0	78.02	4.75	5.89
90.0	78.85	4.86	6.04
100.0	79.59	4.96	6.17
200.0	84.44	5.61	7.05
300.0	87.27	5.99	7.57
400.0	89.28	6.26	7.93
500.0	90.84	6.47	8.21
600.0	92.11	6.64	8.45
700.0	93.18	6.78	8.64
800.0	94.11	6.91	8.81
900.0	94.94	7.02	8.96
1000.0	95.67	7.12	9.10
2000.0	100.50	7.77	9.98
3000.0	103.33	8.16	10.50
4000.0	105.34	8.43	10.86
5000.0	106.89	8.64	11.15
6000.0	108.16	8.81	11.38
7000.0	109.24	8.96	11.58
8000.0	110.17	9.08	11.75
9000.0	110.99	9.20	11.90
10000.0	111.73	9.30	12.04
50000.0	122.95	10.82	14.10
100000.0	127.78	11.48	14.98
500000.0	139.01	13.02	17.05
1000000.0	143.84	13.68	17.94

YUMA,ARIZONA (1949-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 29.00
THE SAMPLE MEAN = 48.85
THE SAMPLE STANDARD DEVIATION = 7.67
THE SAMPLE MINIMUM = 36.89
THE SAMPLE MAXIMUM = 65.06

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
03/28/49	23.	56. NW	60.
03/25/50	23.	43. NW	46.
07/28/51	26.	50. SE	52.
07/19/52	26.	51. S	53.
12/04/53	26.	43. NW	45.
08/01/54	26.	54. S	56.
08/12/55	26.	38. SE	40.
03/06/56	26.	43. N	45.
11/21/57	26.	47. N	49.
08/26/58	18.	38. S	42.
12/13/59	18.	47. W	53.
09/10/60	18.	33. S	37.
07/28/61	18.	52. NE	58.
08/15/62	18.	36. SE	40.
07/26/63	18.	35. SE	39.
02/20/64	18.	50. N	56.
07/28/65	21.	45. SE	49.
06/19/66	21.	42. SW	46.
08/31/67	21.	49. E	53.
07/04/68	21.	39. E	42.
09/06/69	21.	42. SE	46.
08/26/70	21.	41. E	44.
04/17/71	21.	42. W	46.
06/05/72	21.	40. SE	43.
08/19/73	21.	60. SE	65.
04/09/74	21.	36. W	39.
07/25/75	21.	47. NE	51.
09/10/76	21.	57. E	62.
08/14/77	21.	56. S	61.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	47.67	1.30	1.31
3.0	51.05	1.60	1.66
4.0	53.22	1.82	1.96
5.0	54.82	2.00	2.20
6.0	56.10	2.15	2.40
7.0	57.16	2.27	2.57
8.0	58.06	2.38	2.72
9.0	58.85	2.48	2.86
10.0	59.56	2.57	2.97
20.0	64.10	3.14	3.76
29.0	66.49	3.45	4.18
30.0	66.71	3.48	4.22
40.0	68.55	3.72	4.54
50.0	69.98	3.91	4.80
60.0	71.14	4.06	5.01
70.0	72.12	4.19	5.18
80.0	72.97	4.30	5.33
90.0	73.71	4.40	5.47
100.0	74.38	4.49	5.59
200.0	78.77	5.07	6.38
300.0	81.33	5.42	6.85
400.0	83.15	5.66	7.18
500.0	84.56	5.85	7.44
600.0	85.71	6.01	7.65
700.0	86.69	6.14	7.82
800.0	87.53	6.25	7.98
900.0	88.27	6.35	8.11
1000.0	88.94	6.44	8.23
2000.0	93.31	7.04	9.03
3000.0	95.87	7.38	9.50
4000.0	97.69	7.63	9.84
5000.0	99.09	7.82	10.09
6000.0	100.25	7.98	10.30
7000.0	101.22	8.11	10.48
8000.0	102.06	8.22	10.64
9000.0	102.80	8.32	10.77
10000.0	103.47	8.42	10.90
50000.0	113.62	9.80	12.76
100000.0	118.00	10.39	13.56
500000.0	128.16	11.78	15.43
1000000.0	132.53	12.38	16.24

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    FORT SMITH,ARKANSAS (1952-1977)


         THE SAMPLE NUMBER OF OBSERVATIONS =       26.00
         THE SAMPLE MEAN                   =       46.59
         THE SAMPLE STANDARD DEVIATION     =        7.02
         THE SAMPLE MINIMUM                =       36.23
         THE SAMPLE MAXIMUM                =       60.74


  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
         ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                        AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

11/25/52      30.                56. SW                         57.
04/23/53      30.                42.  W                         43.
08/28/54      30.                42. NE                         43.
04/27/55      30.                42. SE                         43.
02/25/56      30.                56.  W                         57.
04/07/57      30.                57. NW                         58.
02/27/58      30.                44.  W                         45.
06/11/59      30.                57. NE                         58.
05/05/60      30.                57. NW                         58.
03/12/61      23.                34.  W                         36.
04/30/62      23.                38. SW                         40.
05/16/63      23.                40. NW                         43.
08/28/64      23.                42.  N                         45.
07/25/65      23.                44. NE                         47.
04/20/66      23.                45.  W                         48.
06/21/67      23.                42.  W                         45.
11/15/68      23.                40. NW                         43.
06/23/69      23.                34. SW                         36.
05/30/70      23.                38. NE                         40.
12/14/71      23.                45. SW                         48.
04/13/72      23.                41. SW                         44.
04/09/73      23.                40. NW                         43.
06/15/74      23.                57. NW                         61.
11/29/75      23.                45.  W                         48.
02/20/76      23.                40.  W                         43.
02/23/77      23.                40. NW                         43.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	45.56	1.26	1.26
3.0	48.56	1.54	1.61
4.0	50.48	1.76	1.90
5.0	51.91	1.94	2.13
6.0	53.04	2.08	2.32
7.0	53.98	2.20	2.49
8.0	54.79	2.31	2.63
9.0	55.49	2.40	2.76
10.0	56.11	2.48	2.88
20.0	60.15	3.04	3.63
26.0	61.65	3.25	3.92
30.0	62.47	3.37	4.08
40.0	64.11	3.60	4.40
50.0	65.37	3.78	4.64
60.0	66.40	3.93	4.84
70.0	67.27	4.05	5.01
80.0	68.03	4.16	5.16
90.0	68.69	4.26	5.29
100.0	69.28	4.34	5.41
200.0	73.18	4.91	6.17
300.0	75.46	5.24	6.63
400.0	77.07	5.48	6.94
500.0	78.33	5.66	7.19
600.0	79.35	5.81	7.40
700.0	80.21	5.94	7.57
800.0	80.96	6.05	7.72
900.0	81.62	6.15	7.85
1000.0	82.21	6.23	7.97
2000.0	86.10	6.81	8.74
3000.0	88.37	7.14	9.19
4000.0	89.98	7.38	9.51
5000.0	91.24	7.57	9.76
6000.0	92.26	7.72	9.97
7000.0	93.12	7.84	10.14
8000.0	93.87	7.96	10.29
9000.0	94.53	8.05	10.42
10000.0	95.12	8.14	10.54
50000.0	104.14	9.48	12.34
100000.0	108.03	10.06	13.12
500000.0	117.05	11.40	14.93
1000000.0	120.94	11.98	15.71

LITTLE ROCK,ARKANSAS (1943-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 35.00
THE SAMPLE MEAN = 46.72
THE SAMPLE STANDARD DEVIATION = 9.63
THE SAMPLE MINIMUM = 30.65
THE SAMPLE MAXIMUM = 72.25

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
07/20/43	58.	45. N	41.
03/07/44	58.	50. NW	46.
03/23/45	58.	45. SE	41.
06/26/46	58.	41. S	38.
04/19/47	58.	42. SW	39.
03/26/48	58.	48. SW	44.
02/14/49	58.	45. NW	41.
09/11/50	58.	44. NW	40.
12/04/51	67.	40. NE	36.
05/09/52	67.	61. NW	55.
04/29/53	67.	61. SE	55.
04/30/54	67.	48. SE	43.
04/12/55	63.	41. E	37.
10/30/56	63.	58. SW	53.
05/23/57	63.	47. N	43.
01/31/58	63.	40. W	36.
05/22/59	63.	54. W	49.
07/27/60	20.	56. NW	61.
04/25/61	20.	65. NW	71.
03/11/62	20.	40. SW	44.
05/05/63	20.	42. S	46.
07/09/64	20.	47. N	51.
07/24/65	20.	49. SE	54.
11/27/66	20.	38. NW	42.
02/15/67	20.	42. SW	46.
03/11/68	20.	40. NE	44.
07/27/69	20.	40. NW	44.
04/20/70	20.	40. S	44.
02/04/71	20.	57. SW	62.
06/25/72	20.	40. NW	44.
04/24/73	20.	54. E	59.
06/08/74	20.	66. SE	72.
05/20/75	20.	43. W	47.
01/23/76	20.	28. SW	31.
03/28/77	20.	34. SW	37.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 13.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	44.87	45.23	1.49	1.50
3.0	48.95	49.45	1.83	1.90
4.0	51.66	52.15	2.08	2.24
5.0	53.70	54.15	2.29	2.52
6.0	55.36	55.74	2.46	2.75
7.0	56.75	57.06	2.60	2.94
8.0	57.96	58.19	2.73	3.11
9.0	59.03	59.18	2.84	3.27
10.0	59.99	60.06	2.94	3.40
20.0	66.36	65.73	3.59	4.30
30.0	70.20	68.99	3.98	4.82
35.0	71.68	70.22	4.13	5.02
40.0	72.97	71.28	4.25	5.20
50.0	75.16	73.06	4.47	5.49
60.0	76.97	74.51	4.64	5.73
70.0	78.53	75.73	4.79	5.93
80.0	79.88	76.79	4.92	6.10
90.0	81.09	77.72	5.03	6.26
100.0	82.18	78.56	5.13	6.39
200.0	89.56	84.03	5.80	7.30
300.0	94.05	87.23	6.20	7.83
400.0	97.33	89.50	6.48	8.21
500.0	99.91	91.26	6.69	8.51
600.0	102.06	92.70	6.87	8.75
700.0	103.90	93.91	7.02	8.95
800.0	105.51	94.96	7.15	9.12
900.0	106.95	95.89	7.27	9.28
1000.0	108.24	96.72	7.37	9.42
2000.0	117.02	102.18	8.05	10.33
3000.0	122.38	105.37	8.44	10.87
4000.0	126.28	107.64	8.73	11.25
5000.0	129.37	109.39	8.95	11.54
6000.0	131.94	110.83	9.12	11.79
7000.0	134.13	112.04	9.28	11.99
8000.0	136.05	113.09	9.41	12.17
9000.0	137.76	114.02	9.52	12.32
10000.0	139.31	114.85	9.63	12.46
50000.0	164.53	127.52	11.21	14.60
100000.0	176.39	132.98	11.89	15.52
500000.0	206.52	145.66	13.48	17.65
1000000.0	220.68	151.12	14.16	18.57

FRESNO, CALIFORNIA (1939-1975)

THE SAMPLE NUMBER OF OBSERVATIONS = 37.00
THE SAMPLE MEAN = 34.43
THE SAMPLE STANDARD DEVIATION = 4.75
THE SAMPLE MINIMUM = 26.84
THE SAMPLE MAXIMUM = 46.50

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
06/14/39	35.	47. SE	47.
09/27/40	34.	27. NW	27.
10/02/41	34.	36. N	36.
12/25/42	34.	32. NW	32.
04/08/43	34.	30. NW	30.
04/08/44	34.	36. NW	36.
03/23/45	34.	34. NW	34.
03/03/46	34.	41. NW	41.
11/05/47	34.	34. NW	34.
02/10/48	34.	42. NW	42.
12/10/49	42.	43. NW	41.
04/08/50	42.	34. S	33.
02/11/51	42.	38. W	37.
05/19/52	42.	38. N	37.
10/21/53	42.	31. NE	30.
02/14/54	42.	35. SW	34.
04/01/55	42.	36. NW	35.
01/26/56	42.	29. S	28.
03/21/57	42.	30. NW	29.
02/04/58	42.	29. SW	28.
10/29/59	42.	40. NE	38.
02/13/60	42.	28. NW	27.
08/05/61	42.	31. S	30.
03/09/62	20.	33. NW	36.
03/31/63	20.	34. NW	37.
03/02/64	20.	41. NW	45.
01/07/65	20.	30. NW	33.
12/06/66	20.	30. NW	33.
01/24/67	20.	29. SE	32.
05/20/68	20.	29. NW	32.
03/03/69	20.	30. NW	33.
04/13/70	20.	29. NW	32.
02/25/71	20.	35. NW	38.
06/09/72	20.	32. NW	35.
04/01/73	20.	36. NW	39.
12/03/74	20.	31. SE	34.
03/07/75	20.	31. S	34.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUÉ TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	33.69	.72	.72
3.0	35.78	.88	.91
4.0	37.12	1.00	1.08
5.0	38.11	1.10	1.21
6.0	38.90	1.18	1.32
7.0	39.55	1.25	1.41
8.0	40.11	1.31	1.49
9.0	40.60	1.36	1.57
10.0	41.04	1.41	1.63
20.0	43.85	1.72	2.06
30.0	45.46	1.91	2.31
37.0	46.29	2.00	2.44
40.0	46.60	2.04	2.49
50.0	47.48	2.14	2.63
60.0	48.20	2.23	2.75
70.0	48.81	2.30	2.84
80.0	49.33	2.36	2.93
90.0	49.79	2.41	3.00
100.0	50.21	2.46	3.07
200.0	52.92	2.78	3.50
300.0	54.51	2.97	3.76
400.0	55.63	3.11	3.94
500.0	56.50	3.21	4.08
600.0	57.21	3.30	4.19
700.0	57.81	3.37	4.29
800.0	58.34	3.43	4.38
900.0	58.80	3.49	4.45
1000.0	59.21	3.53	4.52
2000.0	61.91	3.86	4.96
3000.0	63.49	4.05	5.21
4000.0	64.62	4.19	5.40
5000.0	65.49	4.29	5.54
6000.0	66.20	4.38	5.65
7000.0	66.80	4.45	5.75
8000.0	67.32	4.51	5.84
9000.0	67.78	4.57	5.91
10000.0	68.19	4.62	5.98
50000.0	74.47	5.37	7.00
100000.0	77.18	5.70	7.44
500000.0	83.46	6.46	8.47
1000000.0	86.17	6.79	8.91

RED BLUFF. CALIFORNIA (1945-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 33.00
THE SAMPLE MEAN = 52.11
THE SAMPLE STANDARD DEVIATION = 7.37
THE SAMPLE MINIMUM = 40.50
THE SAMPLE MAXIMUM = 67.28

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
02/02/45	26.	40. SE	42.
11/18/46	26.	44. SE	46.
01/27/47	26.	42. SE	44.
12/05/48	26.	50. SE	52.
02/06/49	26.	47. SE	49.
01/13/50	26.	59. SE	61.
12/04/51	35.	59. SE	58.
12/06/52	35.	60. SE	59.
03/19/53	35.	63. SE	62.
01/17/54	35.	50. SE	49.
12/22/55	35.	51. SE	50.
02/21/56	35.	61. SE	60.
02/23/57	35.	43. SE	43.
02/24/58	35.	60. SE	59.
02/14/59	35.	41. SE	41.
02/08/60	35.	47. SE	47.
04/21/61	35.	50. SE	49.
10/12/62	35.	68. SE	67.
01/31/63	35.	56. SE	55.
01/20/64	35.	56. SE	55.
09/16/65	20.	50. NE	55.
12/04/66	20.	45. SE	49.
12/17/67	20.	56. SE	61.
01/29/68	20.	45. SE	49.
01/26/69	20.	57. SE	62.
11/27/70	20.	56. SE	61.
12/12/71	20.	46. SE	50.
12/21/72	20.	42. SE	46.
10/22/73	20.	48. S	53.
03/29/74	20.	47. SE	51.
03/21/75	20.	42. SE	46.
03/24/76	20.	37. SE	41.
12/14/77	20.	40. S	44.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	50.98	1.18	1.18
3.0	54.17	1.44	1.50
4.0	56.20	1.64	1.77
5.0	57.71	1.80	1.98
6.0	58.91	1.94	2.16
7.0	59.90	2.05	2.32
8.0	60.76	2.15	2.45
9.0	61.50	2.24	2.57
10.0	62.16	2.31	2.68
20.0	66.43	2.83	3.38
30.0	68.89	3.13	3.80
33.0	69.46	3.21	3.90
40.0	70.62	3.35	4.09
50.0	71.96	3.52	4.32
60.0	73.05	3.66	4.51
70.0	73.97	3.77	4.67
80.0	74.77	3.88	4.81
90.0	75.48	3.96	4.93
100.0	76.10	4.04	5.04
200.0	80.23	4.57	5.75
300.0	82.64	4.88	6.17
400.0	84.35	5.10	6.47
500.0	85.68	5.27	6.70
600.0	86.76	5.41	6.89
700.0	87.67	5.53	7.05
800.0	88.47	5.63	7.19
900.0	89.17	5.73	7.31
1000.0	89.79	5.81	7.42
2000.0	93.91	6.34	8.14
3000.0	96.31	6.65	8.56
4000.0	98.02	6.87	8.86
5000.0	99.34	7.05	9.09
6000.0	100.43	7.19	9.28
7000.0	101.34	7.31	9.45
8000.0	102.13	7.41	9.58
9000.0	102.83	7.50	9.71
10000.0	103.46	7.58	9.82
50000.0	113.01	8.83	11.50
100000.0	117.12	9.37	12.22
500000.0	126.68	10.62	13.91
1000000.0	130.79	11.16	14.63

SACRAMENTO. CALIFORNIA (1949-1977). REFER TO SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 29.00
THE SAMPLE MEAN = 46.01
THE SAMPLE STANDARD DEVIATION = 10.24
THE SAMPLE MINIMUM = 33.61
THE SAMPLE MAXIMUM = 67.78

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
03/09/49	40.	56. SE	54.
10/26/50	40.	68. SE	66.
12/03/51	40.	62. S	60.
12/07/52	40.	70. SE	68.
11/13/53	40.	70. SE	68.
01/17/54	40.	60. SE	58.
12/19/55	40.	59. SE	57.
01/25/56	40.	52. S	50.
01/13/57	69.	42. SW	38.
02/24/58	69.	42. SE	38.
01/05/59	69.	56. SW	50.
02/01/60	69.	40. SE	36.
10/07/61	21.	40. NW	43.
10/12/62	21.	42. SW	46.
03/22/63	21.	34. W	37.
04/22/64	21.	37. SW	40.
09/16/65	21.	42. NW	46.
04/17/66	21.	36. SW	39.
02/05/74	21.	42. N	46.
06/29/68	21.	38. N	41.
02/24/69	21.	35. SE	38.
01/23/70	21.	35. SW	38.
01/02/71	21.	36. N	39.
01/03/72	21.	37. NW	40.
01/18/73	21.	31. SE	34.
02/05/74	21.	44. N	48.
03/25/75	21.	43. N	47.
04/15/76	21.	34. NW	37.
03/27/77	21.	32. N	35.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 45.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	44.34	44.45	1.74	1.75
3.0	48.79	48.93	2.13	2.22
4.0	51.66	51.80	2.43	2.62
5.0	53.80	53.92	2.67	2.94
6.0	55.51	55.61	2.87	3.21
7.0	56.93	57.01	3.04	3.44
8.0	58.16	58.21	3.18	3.64
9.0	59.23	59.26	3.31	3.81
10.0	60.19	60.19	3.43	3.97
20.0	66.42	66.20	4.19	5.02
29.0	69.75	69.37	4.61	5.58
30.0	70.05	69.66	4.64	5.63
40.0	72.63	72.10	4.97	6.07
50.0	74.63	73.99	5.21	6.41
60.0	76.28	75.52	5.42	6.68
70.0	77.67	76.82	5.59	6.92
80.0	78.88	77.95	5.74	7.12
90.0	79.95	78.93	5.87	7.30
100.0	80.90	79.82	5.99	7.46
200.0	87.25	85.63	6.78	8.52
300.0	91.00	89.03	7.23	9.14
400.0	93.68	91.43	7.56	9.58
500.0	95.77	93.30	7.81	9.93
600.0	97.48	94.82	8.02	10.21
700.0	98.94	96.11	8.20	10.44
800.0	100.20	97.23	8.35	10.65
900.0	101.32	98.21	8.48	10.83
1000.0	102.32	99.09	8.60	10.99
2000.0	108.98	104.89	9.39	12.06
3000.0	112.92	108.27	9.86	12.69
4000.0	115.73	110.68	10.19	13.13
5000.0	117.93	112.54	10.44	13.48
6000.0	119.74	114.06	10.65	13.76
7000.0	121.27	115.35	10.83	14.00
8000.0	122.60	116.47	10.98	14.20
9000.0	123.77	117.45	11.11	14.38
10000.0	124.83	118.33	11.23	14.55
50000.0	141.25	131.78	13.08	17.04
100000.0	148.51	137.57	13.88	18.11
500000.0	165.82	151.03	15.73	20.61
1000000.0	173.45	156.82	16.53	21.68

SAN DIEGO,CALIFORNIA (1940-1977). REFER TO SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 38.00
THE SAMPLE MEAN = 34.53
THE SAMPLE STANDARD DEVIATION = 4.46
THE SAMPLE MINIMUM = 25.55
THE SAMPLE MAXIMUM = 46.55

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
12/24/40	60.	38. SW	35.
02/11/41	60.	41. SW	37.
03/14/42	60.	40. SW	37.
01/23/43	60.	47. SE	43.
11/11/44	60.	51. SE	47.
03/23/45	60.	46. SW	42.
03/30/46	60.	38. S	35.
12/05/47	60.	29. S	26.
03/24/48	60.	34. S	31.
11/10/49	60.	34. SW	31.
01/08/50	60.	28. SW	26.
03/01/51	60.	35. SW	32.
03/07/52	60.	45. S	41.
02/23/53	60.	30. SW	27.
03/16/54	60.	36. W	33.
01/18/55	60.	39. SW	36.
04/13/56	60.	32. S	29.
04/20/57	60.	34. SW	31.
04/03/58	60.	37. S	34.
02/11/59	60.	30. S	27.
11/20/60	60.	33. SW	30.
10/08/61	21.	31. N	34.
01/20/62	21.	31. S	34.
03/16/63	21.	32. SE	35.
03/02/64	21.	34. NW	37.
04/08/65	21.	33. S	36.
11/07/66	21.	33. S	36.
12/18/67	21.	32. S	35.
03/08/68	21.	32. SW	35.
02/25/69	21.	35. S	38.
02/09/70	15.	34. S	39.
01/02/71	15.	30. W	35.
11/14/72	15.	29. SE	34.
02/11/73	15.	33. S	38.
03/08/74	20.	33. SW	36.
11/28/75	20.	30. W	33.
04/15/76	20.	32. W	35.
03/01/77	20.	32. NW	35.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	33.84	.66	.66
3.0	35.77	.81	.84
4.0	37.01	.93	1.00
5.0	37.92	1.02	1.12
6.0	38.65	1.09	1.22
7.0	39.25	1.16	1.31
8.0	39.77	1.21	1.38
9.0	40.22	1.26	1.45
10.0	40.62	1.30	1.51
20.0	43.22	1.60	1.91
30.0	44.71	1.77	2.14
38.0	45.57	1.87	2.28
40.0	45.76	1.89	2.31
50.0	46.57	1.98	2.44
60.0	47.23	2.06	2.54
70.0	47.79	2.13	2.63
80.0	48.28	2.19	2.71
90.0	48.70	2.24	2.78
100.0	49.08	2.28	2.84
200.0	51.59	2.58	3.24
300.0	53.05	2.75	3.48
400.0	54.09	2.88	3.65
500.0	54.89	2.97	3.78
600.0	55.55	3.05	3.89
700.0	56.11	3.12	3.98
800.0	56.59	3.18	4.05
900.0	57.01	3.23	4.12
1000.0	57.39	3.27	4.18
2000.0	59.89	3.58	4.59
3000.0	61.35	3.75	4.83
4000.0	62.38	3.88	5.00
5000.0	63.19	3.97	5.13
6000.0	63.84	4.05	5.24
7000.0	64.40	4.12	5.33
8000.0	64.88	4.18	5.41
9000.0	65.30	4.23	5.47
10000.0	65.68	4.28	5.54
50000.0	71.48	4.98	6.48
100000.0	73.97	5.28	6.89
500000.0	79.77	5.99	7.84
1000000.0	82.27	6.29	8.25

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    DENVER.COLORADO (1951-1977). REFER TO SECT. 2.2


         THE SAMPLE NUMBER OF OBSERVATIONS =       27.00
         THE SAMPLE MEAN                   =       49.16
         THE SAMPLE STANDARD DEVIATION     =        4.73
         THE SAMPLE MINIMUM                =       41.64
         THE SAMPLE MAXIMUM                =       61.30


   DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
           ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                           AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

 07/20/51      40.               43.  S                        42.
 03/12/52      40.               53. NW                        51.
 12/10/53      40.               51. NE                        49.
 03/12/54      40.               45. NE                        44.
 03/31/55      40.               49.  N                        47.
 03/27/56      40.               49.  W                        47.
 04/21/57      40.               52. SE                        50.
 10/20/58      40.               45. NW                        44.
 11/23/59      40.               45. NW                        44.
 04/16/60      40.               56. NW                        54.
 12/21/61      20.               49.  W                        54.
 04/07/62      20.               48.  W                        53.
 04/15/63      20.               47. SW                        51.
 05/05/64      20.               43. SW                        47.
 07/25/65      20.               56. SW                        61.
 04/02/66      20.               45. NW                        49.
 12/06/67      20.               42. NW                        46.
 12/12/68      20.               39.  W                        43.
 01/08/69      20.               46. SW                        50.
 02/03/70      20.               40. NE                        44.
 04/18/71      20.               47. SE                        51.
 01/11/72      20.               42. SW                        46.
 12/12/73      20.               49. NW                        54.
 06/13/74      20.               43. NW                        47.
 12/27/75      20.               45. NW                        49.
 01/30/76      20.               53.  N                        58.
 03/11/77      20.               47.  N                        51.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	48.44	.83	.84
3.0	50.54	1.02	1.06
4.0	51.88	1.17	1.25
5.0	52.88	1.28	1.41
6.0	53.67	1.37	1.54
7.0	54.32	1.45	1.65
8.0	54.89	1.52	1.74
9.0	55.38	1.59	1.83
10.0	55.81	1.64	1.90
20.0	58.63	2.01	2.40
27.0	59.83	2.17	2.62
30.0	60.25	2.22	2.70
40.0	61.40	2.38	2.91
50.0	62.28	2.50	3.07
60.0	63.00	2.60	3.20
70.0	63.61	2.68	3.31
80.0	64.13	2.75	3.41
90.0	64.60	2.81	3.50
100.0	65.01	2.87	3.57
200.0	67.74	3.25	4.08
300.0	69.33	3.47	4.38
400.0	70.45	3.62	4.59
500.0	71.33	3.74	4.76
600.0	72.04	3.84	4.89
700.0	72.65	3.93	5.00
800.0	73.17	4.00	5.10
900.0	73.63	4.06	5.19
1000.0	74.04	4.12	5.27
2000.0	76.76	4.50	5.78
3000.0	78.35	4.72	6.08
4000.0	79.47	4.88	6.29
5000.0	80.35	5.00	6.46
6000.0	81.06	5.10	6.59
7000.0	81.66	5.19	6.70
8000.0	82.19	5.26	6.80
9000.0	82.65	5.32	6.89
10000.0	83.06	5.38	6.97
50000.0	89.36	6.27	8.16
100000.0	92.08	6.65	8.68
500000.0	98.38	7.54	9.87
1000000.0	101.10	7.92	10.39

GRAND JUNCTION,COLORADO (1947-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 31.00
THE SAMPLE MEAN = 52.67
THE SAMPLE STANDARD DEVIATION = 5.40
THE SAMPLE MINIMUM = 44.82
THE SAMPLE MAXIMUM = 69.85

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
09/30/47	32.	61. S	61.
05/07/48	32.	52. S	52.
05/24/49	32.	56. NW	56.
06/07/50	59.	57. S	52.
06/01/51	59.	66. S	60.
06/26/52	59.	60. S	55.
05/27/53	59.	61. SW	56.
03/23/54	59.	65. S	59.
04/02/55	59.	59. W	54.
06/15/56	59.	56. SW	51.
08/08/57	59.	56. W	51.
02/25/58	59.	56. SW	51.
03/03/59	59.	49. NW	45.
04/23/60	59.	56. S	51.
05/16/61	59.	49. NW	45.
07/25/62	22.	48. NW	52.
07/12/63	22.	44. N	47.
08/26/64	22.	49. W	53.
06/04/65	22.	49. NE	53.
05/11/66	22.	65. NW	70.
02/14/67	22.	56. W	60.
05/30/68	22.	42. NE	45.
06/25/69	22.	48. NW	52.
05/20/70	22.	50. SW	54.
03/17/71	22.	43. W	46.
08/08/72	22.	45. SW	48.
06/28/73	22.	47. NW	51.
04/09/74	22.	45. SW	48.
03/20/75	22.	47. SW	51.
04/25/76	22.	49. S	53.
05/12/77	22.	47. S	51.

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RETURN PERIOD   PREDICTED EXTREME WIND      PREDICTED EXTREME WIND     ESTIMATED       ESTIMATED
 (IN YEARS)        BASED ON OPTIMAL              BASED ON               STAN. DEV.      STAN. DEV.
                EXTREME VALUE TYPE 2.       EXTREME VALUE TYPE 1     SAMPL. ERROR   SAMPL. ERROR
                    DISTRIBUTION                 DISTRIBUTION         CRAMER-RAO    METH. OF MOM.
               (GAMMA =      10.00000)

      2.0            51.59                       51.84                  .89              .89
      3.0            53.85                       54.20                 1.09             1.13
      4.0            55.36                       55.71                 1.24             1.33
      5.0            56.51                       56.83                 1.36             1.50
      6.0            57.45                       57.72                 1.46             1.64

      7.0            58.25                       58.46                 1.55             1.75
      8.0            58.94                       59.10                 1.62             1.85
      9.0            59.55                       59.65                 1.69             1.94
     10.0            60.10                       60.14                 1.75             2.03
     20.0            63.80                       63.31                 2.14             2.56

     30.0            66.05                       65.14                 2.37             2.87
     31.0            66.24                       65.28                 2.39             2.90
     40.0            67.70                       66.42                 2.53             3.09
     50.0            69.00                       67.42                 2.66             3.27
     60.0            70.09                       68.23                 2.76             3.41

     70.0            71.02                       68.91                 2.85             3.53
     80.0            71.84                       69.51                 2.93             3.63
     90.0            72.57                       70.03                 3.00             3.72
    100.0            73.23                       70.50                 3.06             3.81
    200.0            77.75                       73.56                 3.46             4.35

    300.0            80.53                       75.35                 3.69             4.66
    400.0            82.58                       76.62                 3.86             4.89
    500.0            84.21                       77.61                 3.99             5.06
    600.0            85.57                       78.41                 4.09             5.21
    700.0            86.73                       79.09                 4.18             5.33

    800.0            87.76                       79.68                 4.26             5.43
    900.0            88.67                       80.20                 4.33             5.52
   1000.0            89.50                       80.66                 4.39             5.61
   2000.0            95.17                       83.72                 4.79             6.15
   3000.0            98.67                       85.51                 5.03             6.47

   4000.0           101.25                       86.77                 5.20             6.70
   5000.0           103.30                       87.76                 5.33             6.87
   6000.0           105.00                       88.56                 5.43             7.02
   7000.0           106.47                       89.24                 5.52             7.14
   8000.0           107.76                       89.83                 5.60             7.24

   9000.0           108.91                       90.35                 5.67             7.34
  10000.0           109.96                       90.81                 5.73             7.42
  50000.0           127.32                       97.90                 6.67             8.69
 100000.0           135.70                      100.96                 7.08             9.24
 500000.0           157.58                      108.06                 8.02            10.51

1000000.0           168.14                      111.11                 8.43            11.06
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PUEBLO,COLORADO (1941-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 37.00
THE SAMPLE MEAN = 62.75
THE SAMPLE STANDARD DEVIATION = 7.37
THE SAMPLE MINIMUM = 48.71
THE SAMPLE MAXIMUM = 79.15

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
09/07/41	36.	56.	N	55.
06/03/42	36.	57.	NW	56.
01/21/43	36.	59.	NW	58.
11/25/44	36.	57.	N	56.
03/26/45	36.	63.	SW	62.
10/29/46	36.	59.	SW	58.
03/23/47	36.	57.	W	56.
04/10/48	36.	57.	W	56.
05/20/49	36.	59.	W	58.
01/17/50	36.	80.	W	79.
12/22/51	36.	56.	W	55.
03/12/52	36.	61.	NW	60.
02/15/53	36.	56.	W	55.
03/18/54	36.	63.	W	62.
04/12/55	34.	72.	N	72.
03/27/56	34.	55.	NW	55.
03/23/57	34.	68.	N	68.
04/22/58	34.	49.	N	49.
11/04/59	34.	61.	N	61.
04/16/60	34.	66.	W	66.
04/18/61	34.	72.	N	72.
08/15/62	21.	68.	N	74.
04/15/63	21.	64.	SW	69.
07/28/64	21.	73.	NE	79.
01/31/65	21.	59.	W	64.
03/22/66	21.	56.	N	61.
05/19/67	21.	59.	N	64.
04/03/68	21.	49.	N	53.
06/24/69	21.	54.	NW	59.
03/24/70	21.	52.	N	56.
11/13/71	21.	63.	NW	68.
08/02/72	21.	59.	N	64.
12/12/73	21.	63.	NW	68.
03/02/74	21.	59.	W	64.
05/12/75	21.	65.	N	70.
02/20/76	21.	63.	N	68.
03/11/77	21.	66.	N	72.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	61.60	1.11	1.11
3.0	64.82	1.36	1.41
4.0	66.87	1.55	1.67
5.0	68.40	1.70	1.87
6.0	69.61	1.83	2.05
7.0	70.61	1.94	2.19
8.0	71.47	2.03	2.32
9.0	72.23	2.11	2.43
10.0	72.89	2.19	2.53
20.0	77.21	2.67	3.20
30.0	79.69	2.96	3.59
37.0	80.97	3.11	3.79
40.0	81.44	3.17	3.87
50.0	82.79	3.33	4.08
60.0	83.89	3.46	4.26
70.0	84.83	3.57	4.41
80.0	85.63	3.66	4.54
90.0	86.34	3.75	4.66
100.0	86.98	3.82	4.76
200.0	91.15	4.32	5.43
300.0	93.58	4.61	5.83
400.0	95.31	4.82	6.11
500.0	96.65	4.98	6.33
600.0	97.74	5.12	6.51
700.0	98.66	5.23	6.66
800.0	99.46	5.32	6.79
900.0	100.17	5.41	6.91
1000.0	100.80	5.49	7.01
2000.0	104.96	5.99	7.69
3000.0	107.39	6.29	8.09
4000.0	109.11	6.50	8.37
5000.0	110.45	6.66	8.59
6000.0	111.54	6.79	8.77
7000.0	112.47	6.90	8.92
8000.0	113.27	7.00	9.06
9000.0	113.97	7.09	9.17
10000.0	114.61	7.16	9.28
50000.0	124.25	8.34	10.86
100000.0	128.41	8.85	11.55
500000.0	138.06	10.03	13.14
1000000.0	142.22	10.54	13.83

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HARTFORD,CONNECTICUT (1940-1977)

      THE SAMPLE NUMBER OF OBSERVATIONS =      38.00
      THE SAMPLE MEAN                   =      45.14
      THE SAMPLE STANDARD DEVIATION     =       6.79
      THE SAMPLE MINIMUM                =      34.35
      THE SAMPLE MAXIMUM                =      66.79

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

04/06/40      44.              36. NW                          34.
12/24/41      44.              45.  S                          43.
03/09/42      44.              41.  S                          39.
12/11/43      44.              45. NW                          43.
09/14/44      44.              62.  N                          59.
11/20/45      44.              45. NW                          43.
06/08/46      44.              52.  N                          50.
11/08/47      44.              41. NW                          39.
11/13/48      44.              41. NW                          39.
04/06/49      44.              44. SW                          42.
11/25/50      44.              70.  E                          67.
11/26/51      44.              39. NW                          37.
03/11/52      44.              57. SE                          54.
02/15/53      44.              50. NW                          48.
08/31/54      98.              56. NE                          48.
11/21/55      98.              51. NW                          44.
03/16/56      98.              50. NE                          43.
06/29/57      98.              45.  N                          39.
02/25/58      98.              50.  W                          43.
01/06/59      98.              49. NW                          42.
09/12/60      20.              43. NE                          47.
02/04/61      20.              39.  N                          43.
03/06/62      20.              39. NE                          43.
04/04/63      20.              41. NW                          45.
01/21/64      20.              50. NW                          55.
03/27/65      20.              38. NW                          42.
07/19/66      20.              36. NW                          39.
02/16/67      20.              53. SW                          58.
03/01/68      20.              40. NW                          44.
01/01/69      20.              37. NW                          41.
04/03/70      20.              42. NW                          46.
03/04/71      20.              47. NW                          51.
01/25/72      20.              49. NW                          54.
01/20/73      20.              34. NW                          37.
03/10/74      20.              42. NW                          46.
04/04/75      20.              37. NW                          41.
12/13/76      20.              42. NW                          46.
03/24/77      20.              39. NW                          43.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 8.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	43.69	44.09	1.01	1.01
3.0	46.48	47.05	1.24	1.28
4.0	48.37	48.95	1.41	1.52
5.0	49.82	50.36	1.55	1.70
6.0	51.01	51.48	1.66	1.86
7.0	52.02	52.40	1.76	1.99
8.0	52.90	53.20	1.84	2.11
9.0	53.68	53.89	1.92	2.21
10.0	54.39	54.51	1.99	2.30
20.0	59.19	58.49	2.43	2.91
30.0	62.15	60.78	2.69	3.26
38.0	63.94	62.11	2.84	3.47
40.0	64.34	62.40	2.88	3.51
50.0	66.08	63.65	3.02	3.71
60.0	67.54	64.67	3.14	3.87
70.0	68.80	65.52	3.24	4.01
80.0	69.91	66.27	3.33	4.13
90.0	70.90	66.92	3.40	4.23
100.0	71.80	67.51	3.47	4.32
200.0	78.02	71.36	3.92	4.94
300.0	81.90	73.61	4.19	5.30
400.0	84.78	75.20	4.38	5.55
500.0	87.09	76.44	4.53	5.75
600.0	89.02	77.45	4.65	5.91
700.0	90.69	78.30	4.75	6.05
800.0	92.16	79.04	4.84	6.17
900.0	93.47	79.69	4.91	6.27
1000.0	94.67	80.27	4.98	6.37
2000.0	102.93	84.11	5.44	6.99
3000.0	108.11	86.35	5.71	7.35
4000.0	111.94	87.95	5.90	7.61
5000.0	115.02	89.18	6.05	7.81
6000.0	117.59	90.19	6.17	7.97
7000.0	119.81	91.04	6.27	8.11
8000.0	121.77	91.78	6.36	8.23
9000.0	123.53	92.43	6.44	8.33
10000.0	125.12	93.02	6.51	8.43
50000.0	152.25	101.92	7.58	9.87
100000.0	165.72	105.76	8.04	10.49
500000.0	201.94	114.67	9.11	11.94
1000000.0	219.91	118.50	9.58	12.56

WASHINGTON. D.C. (1945-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 33.00
THE SAMPLE MEAN = 48.25
THE SAMPLE STANDARD DEVIATION = 6.47
THE SAMPLE MINIMUM = 35.52
THE SAMPLE MAXIMUM = 66.32

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
06/18/45	93.	42.	S	36.
12/01/46	93.	52.	NW	45.
11/03/47	93.	61.	NE	53.
03/15/48	93.	56.	NE	49.
08/28/49	93.	41.	SE	36.
11/25/50	113.	52.	E	44.
03/13/51	113.	60.	E	51.
11/21/52	113.	60.	E	51.
07/22/53	113.	49.	SW	42.
10/15/54	113.	78.	SE	66.
03/22/55	113.	50.	SW	43.
02/25/56	113.	57.	NW	48.
10/06/57	113.	63.	N	54.
06/13/58	20.	40.	SW	44.
02/11/59	20.	42.	NW	46.
02/18/60	113.	54.	NE	46.
02/25/61	20.	57.	SW	62.
06/19/62	20.	42.	NW	46.
04/23/63	20.	52.	NW	57.
03/10/64	20.	43.	SW	47.
02/25/65	20.	49.	SW	54.
03/01/66	20.	38.	W	42.
03/16/67	20.	42.	NW	46.
06/24/68	20.	43.	W	47.
12/27/69	20.	45.	NW	49.
12/16/70	20.	43.	E	47.
01/26/71	20.	47.	NW	51.
06/21/72	20.	43.	NW	47.
03/17/73	20.	38.	SW	42.
12/01/74	20.	42.	E	46.
04/04/75	20.	43.	W	47.
07/15/76	20.	50.	N	55.
05/08/77	20.	50.	NW	55.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	47.25	1.03	1.03
3.0	50.09	1.26	1.31
4.0	51.90	1.44	1.55
5.0	53.25	1.58	1.74
6.0	54.31	1.70	1.90
7.0	55.20	1.80	2.04
8.0	55.96	1.88	2.15
9.0	56.62	1.96	2.26
10.0	57.21	2.03	2.35
20.0	61.02	2.48	2.97
30.0	63.21	2.75	3.33
33.0	63.72	2.81	3.42
40.0	64.75	2.94	3.59
50.0	65.94	3.09	3.79
60.0	66.92	3.21	3.96
70.0	67.74	3.31	4.10
80.0	68.45	3.40	4.22
90.0	69.08	3.48	4.32
100.0	69.64	3.55	4.42
200.0	73.31	4.01	5.05
300.0	75.46	4.28	5.41
400.0	76.98	4.48	5.68
500.0	78.17	4.63	5.88
600.0	79.13	4.75	6.05
700.0	79.95	4.85	6.19
800.0	80.65	4.94	6.31
900.0	81.28	5.02	6.41
1000.0	81.83	5.09	6.51
2000.0	85.50	5.56	7.14
3000.0	87.64	5.84	7.51
4000.0	89.16	6.03	7.78
5000.0	90.34	6.18	7.98
6000.0	91.31	6.31	8.15
7000.0	92.12	6.41	8.29
8000.0	92.83	6.50	8.41
9000.0	93.45	6.58	8.52
10000.0	94.01	6.65	8.61
50000.0	102.52	7.75	10.09
100000.0	106.18	8.22	10.73
500000.0	114.70	9.32	12.20
1000000.0	118.36	9.79	12.84

JACKSONVILLE, FLORIDA (1950-1977)   CAUTION -- SEE APPENDIX 1

THE SAMPLE NUMBER OF OBSERVATIONS = 28.00
THE SAMPLE MEAN = 48.61
THE SAMPLE STANDARD DEVIATION = 10.14
THE SAMPLE MINIMUM = 34.46
THE SAMPLE MAXIMUM = 74.36

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
10/18/50	54.	72. E	67.
10/02/51	54.	42. NE	39.
10/20/52	63.	56. N	51.
02/12/53	63.	52. SW	47.
09/11/54	63.	46. S	42.
05/15/55	63.	46. NE	42.
06/26/56	63.	49. S	44.
09/09/57	63.	46. S	42.
02/01/58	63.	42. W	38.
12/12/59	63.	38. S	34.
09/11/60	63.	46. NE	42.
04/12/61	63.	48. SW	44.
06/14/62	63.	54. E	49.
12/31/63	63.	62. N	56.
09/09/64	63.	82. N	74.
09/08/65	63.	57. E	52.
06/09/66	63.	48. E	44.
06/30/67	63.	76. NE	69.
06/06/68	63.	52. N	47.
06/05/69	63.	58. N	53.
02/01/70	63.	44. SE	40.
07/01/71	21.	47. NW	51.
08/06/72	21.	44. NW	48.
04/25/73	21.	48. W	52.
07/30/74	21.	44. SE	48.
05/27/75	21.	62. N	67.
09/03/76	21.	42. NW	46.
09/08/77	21.	33. W	36.

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RETURN PERIOD    PREDICTED EXTREME WIND    PREDICTED EXTREME WIND    ESTIMATED      ESTIMATED
 (IN YEARS)        BASED ON OPTIMAL              BASED ON            STAN. DEV.     STAN. DEV.
                 EXTREME VALUE TYPE 2.     EXTREME VALUE TYPE 1     SAMPL. ERROR   SAMPL. ERROR
                      DISTRIBUTION              DISTRIBUTION         CRAMER-RAO    METH. OF MOM.
                 (GAMMA =     12.00000)

      2.0               46.67                     47.07                 1.75           1.76
      3.0               50.98                     51.52                 2.15           2.23
      4.0               53.84                     54.38                 2.45           2.64
      5.0               56.01                     56.49                 2.69           2.96
      6.0               57.77                     58.17                 2.89           3.23

      7.0               59.25                     59.56                 3.06           3.46
      8.0               60.54                     60.76                 3.21           3.66
      9.0               61.68                     61.80                 3.34           3.84
     10.0               62.70                     62.73                 3.45           4.00
     20.0               69.52                     68.71                 4.23           5.05

     28.0               72.92                     71.57                 4.60           5.57
     30.0               73.63                     72.15                 4.68           5.67
     40.0               76.62                     74.58                 5.00           6.11
     50.0               78.98                     76.46                 5.26           6.45
     60.0               80.93                     77.99                 5.46           6.73

     70.0               82.61                     79.28                 5.64           6.97
     80.0               84.08                     80.40                 5.79           7.18
     90.0               85.38                     81.38                 5.92           7.36
    100.0               86.56                     82.26                 6.04           7.52
    200.0               94.57                     88.04                 6.83           8.59

    300.0               99.47                     91.42                 7.29           9.21
    400.0              103.04                     93.82                 7.62           9.66
    500.0              105.87                     95.67                 7.87          10.00
    600.0              108.23                     97.19                 8.08          10.29
    700.0              110.24                     98.47                 8.26          10.53

    800.0              112.01                     99.58                 8.41          10.73
    900.0              113.59                    100.56                 8.55          10.91
   1000.0              115.01                    101.44                 8.67          11.08
   2000.0              124.68                    107.21                 9.47          12.15
   3000.0              130.61                    110.58                 9.93          12.78

   4000.0              134.93                    112.97                10.26          13.23
   5000.0              138.36                    114.82                10.52          13.58
   6000.0              141.21                    116.34                10.73          13.86
   7000.0              143.65                    117.62                10.91          14.10
   8000.0              145.79                    118.73                11.06          14.31

   9000.0              147.70                    119.71                11.20          14.49
  10000.0              149.42                    120.59                11.32          14.66
  50000.0              177.70                    133.97                13.18          17.17
 100000.0              191.10                    139.73                13.98          18.25
 500000.0              225.40                    153.12                15.85          20.77

1000000.0              241.64                    158.89                16.66          21.85
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KEY WEST, FLORIDA (1958-1976)   CAUTION -- SEE APPENDIX 1

THE SAMPLE NUMBER OF OBSERVATIONS = 19.00
THE SAMPLE MEAN = 50.98
THE SAMPLE STANDARD DEVIATION = 17.23
THE SAMPLE MINIMUM = 35.17
THE SAMPLE MAXIMUM = 89.51

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
09/03/58	35.	59. SE	58.
11/25/59	35.	36. SE	36.
09/10/60	35.	65. NW	64.
09/07/61	35.	49. SE	48.
03/06/62	35.	36. NW	36.
10/06/63	35.	36. NE	36.
10/14/64	23.	73. S	78.
09/08/65	23.	81. SW	86.
10/05/66	23.	84. SE	90.
07/09/67	23.	36. E	38.
10/16/68	23.	49. SE	52.
10/02/69	23.	40. SE	43.
10/20/70	23.	40. SE	43.
07/21/71	23.	39. E	42.
06/18/72	23.	43. SE	46.
02/09/73	23.	45. W	48.
06/25/74	23.	33. S	35.
09/07/75	23.	33. E	35.
04/06/76	23.	52. NW	55.

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RETURN PERIOD    PREDICTED EXTREME WIND      PREDICTED EXTREME WIND     ESTIMATED      ESTIMATED
 (IN YEARS)        BASED ON OPTIMAL               BASED ON             STAN. DEV.     STAN. DEV.
                 EXTREME VALUE TYPE 2.      EXTREME VALUE TYPE 1     SAMPL. ERROR   SAMPL. EFROR
                      DISTRIBUTION               DISTRIBUTION          CRAMER-RAO    METH. OF MOM.
                 (GAMMA =       6.00000)

      2.0              47.17                      48.45                  3.62           3.63
      3.0              54.34                      56.08                  4.43           4.61
      4.0              59.28                      60.97                  5.06           5.44
      5.0              63.13                      64.59                  5.56           6.11
      6.0              66.30                      67.46                  5.97           6.67

      7.0              69.02                      69.85                  6.32           7.15
      8.0              71.41                      71.90                  6.62           7.56
      9.0              73.54                      73.68                  6.89           7.93
     10.0              75.47                      75.27                  7.13           8.26
     19.0              87.83                      84.77                  8.60          10.27

     20.0              88.86                      85.52                  8.72          10.43
     30.0              97.32                      91.42                  9.66          11.71
     40.0             103.65                      95.57                 10.32          12.61
     50.0             108.76                      98.79                 10.84          13.32
     60.0             113.06                     101.41                 11.27          13.90

     70.0             116.81                     103.62                 11.63          14.39
     80.0             120.12                     105.53                 11.94          14.81
     90.0             123.11                     107.22                 12.22          15.18
    100.0             125.83                     108.73                 12.46          15.52
    200.0             144.93                     118.63                 14.09          17.72

    300.0             157.15                     124.42                 15.04          19.01
    400.0             166.34                     128.52                 15.72          19.93
    500.0             173.77                     131.70                 16.25          20.64
    600.0             180.05                     134.30                 16.68          21.23
    700.0             185.51                     136.49                 17.04          21.72

    800.0             190.35                     138.40                 17.36          22.15
    900.0             194.71                     140.07                 17.64          22.52
   1000.0             198.69                     141.57                 17.89          22.86
   2000.0             226.65                     151.45                 19.53          25.08
   3000.0             244.57                     157.22                 20.50          26.38

   4000.0             258.03                     161.32                 21.18          27.30
   5000.0             268.93                     164.49                 21.71          28.02
   6000.0             278.15                     167.09                 22.15          28.61
   7000.0             286.16                     169.29                 22.51          29.10
   8000.0             293.26                     171.19                 22.83          29.53

   9000.0             299.66                     172.86                 23.11          29.91
  10000.0             305.50                     174.37                 23.36          30.25
  50000.0             408.58                     197.28                 27.20          35.43
 100000.0             462.24                     207.15                 28.86          37.66
 500000.0             613.70                     230.09                 32.71          42.85

1000000.0             692.48                     239.95                 34.37          45.08
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TAMPA, FLORIDA (1942-1951)   CAUTION -- SEE APPENDIX 1

THE SAMPLE NUMBER OF OBSERVATIONS = 10.00
THE SAMPLE MEAN = 49.57
THE SAMPLE STANDARD DEVIATION = 8.09
THE SAMPLE MINIMUM = 37.42
THE SAMPLE MAXIMUM = 65.11

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
08/18/42	43.	47.	S	45.
06/06/43	43.	49.	SW	47.
10/19/44	43.	68.	NE	65.
06/24/45	43.	52.	SW	50.
02/27/46	43.	59.	SW	56.
03/01/47	36.	56.	SW	55.
07/31/48	36.	38.	S	37.
08/27/49	36.	54.	SW	53.
09/05/50	36.	45.	S	44.
04/01/51	36.	43.	SW	42.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	48.44	2.34	2.35
3.0	52.29	2.87	2.98
4.0	54.75	3.27	3.52
5.0	56.58	3.59	3.95
6.0	58.02	3.86	4.32
7.0	59.23	4.09	4.62
8.0	60.26	4.28	4.89
9.0	61.16	4.46	5.13
10.0	61.96	4.61	5.34
10.0	61.96	4.61	5.34
20.0	67.13	5.64	6.75
30.0	70.10	6.25	7.57
40.0	72.19	6.68	8.16
50.0	73.81	7.02	8.62
60.0	75.13	7.29	8.99
70.0	76.25	7.52	9.31
80.0	77.21	7.73	9.58
90.0	78.06	7.90	9.82
100.0	78.82	8.06	10.04
200.0	83.81	9.12	11.47
300.0	86.73	9.73	12.30
400.0	88.80	10.17	12.90
500.0	90.40	10.51	13.36
600.0	91.71	10.79	13.73
700.0	92.82	11.03	14.05
800.0	93.78	11.23	14.33
900.0	94.62	11.41	14.57
1000.0	95.38	11.57	14.79
2000.0	100.35	12.64	16.23
3000.0	103.26	13.26	17.07
4000.0	105.33	13.70	17.67
5000.0	106.93	14.05	18.13
6000.0	108.24	14.33	18.51
7000.0	109.34	14.57	18.83
8000.0	110.30	14.77	19.11
9000.0	111.15	14.95	19.35
10000.0	111.90	15.12	19.57
50000.0	123.45	17.60	22.92
100000.0	128.43	18.67	24.37
500000.0	139.99	21.17	27.72
1000000.0	144.96	22.24	29.17

ATLANTA, GEORGIA (1935-1976). SEE SECT. 2.1

THE SAMPLE NUMBER OF OBSERVATIONS = 42.00
THE SAMPLE MEAN = 47.41
THE SAMPLE STANDARD DEVIATION = 9.25
THE SAMPLE MINIMUM = 32.10
THE SAMPLE MAXIMUM = 75.53

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
08/11/35	53.	49. NE	45.
01/19/36	53.	53. W	49.
06/28/37	53.	43. SW	40.
03/16/38	53.	39. SE	36.
03/30/39	72.	56. SE	50.
06/24/40	72.	59. SW	53.
08/13/41	72.	49. NW	44.
12/01/42	72.	63. W	56.
05/11/43	72.	48. S	43.
10/20/44	72.	47. N	42.
01/01/45	72.	54. NW	48.
02/10/46	72.	59. W	53.
03/25/47	72.	66. NW	59.
01/04/48	72.	42. NW	37.
05/01/49	72.	40. NW	36.
03/27/50	72.	49. S	44.
12/15/51	72.	44. NW	39.
09/02/52	72.	49. N	44.
06/10/53	72.	70. NE	62.
07/02/54	72.	56. SE	50.
07/04/55	72.	51. SE	45.
04/15/56	72.	68. SW	61.
06/28/57	72.	51. SW	45.
04/22/58	72.	52. NW	46.
01/21/59	72.	46. W	41.
03/22/60	72.	36. W	32.
04/17/61	72.	56. W	50.
04/09/62	72.	39. W	35.
12/31/63	20.	48. E	53.
07/22/64	20.	42. SE	46.
11/27/65	20.	34. W	37.
07/15/66	20.	52. N	57.
06/18/67	20.	35. NW	38.
12/28/68	20.	39. SW	43.
03/23/69	20.	69. SE	76.
06/13/70	20.	33. NW	36.
05/12/71	20.	63. SW	69.
08/20/72	20.	44. W	48.

05/19/73	20.	42.	W	46.
03/21/74	20.	48.	W	53.
12/31/75	20.	49.	SW	54.
02/18/76	20.	47.	W	51.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 90.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	45.90	45.95	1.31	1.31
3.0	49.95	50.02	1.60	1.66
4.0	52.55	52.62	1.83	1.96
5.0	54.48	54.54	2.01	2.21
6.0	56.02	56.07	2.15	2.41
7.0	57.30	57.34	2.28	2.58
8.0	58.40	58.43	2.39	2.73
9.0	59.36	59.38	2.49	2.86
10.0	60.21	60.22	2.57	2.98
20.0	65.76	65.67	3.15	3.76
30.0	68.97	68.81	3.49	4.23
40.0	71.24	71.02	3.73	4.55
42.0	71.63	71.40	3.77	4.61
50.0	73.01	72.73	3.91	4.81
60.0	74.45	74.13	4.07	5.02
70.0	75.66	75.30	4.20	5.19
80.0	76.72	76.32	4.31	5.34
90.0	77.65	77.22	4.41	5.48
100.0	78.48	78.02	4.50	5.60
200.0	83.99	83.29	5.08	6.40
300.0	87.22	86.37	5.43	6.86
400.0	89.52	88.55	5.67	7.19
500.0	91.31	90.24	5.86	7.45
600.0	92.78	91.62	6.02	7.66
700.0	94.02	92.79	6.15	7.84
800.0	95.09	93.80	6.27	7.99
900.0	96.04	94.70	6.37	8.13
1000.0	96.90	95.49	6.46	8.25
2000.0	102.52	100.75	7.05	9.05
3000.0	105.83	103.82	7.40	9.52
4000.0	108.19	106.00	7.64	9.85
5000.0	110.02	107.69	7.84	10.11
6000.0	111.53	109.07	7.99	10.32
7000.0	112.80	110.24	8.13	10.50
8000.0	113.90	111.25	8.24	10.66
9000.0	114.88	112.14	8.34	10.79
10000.0	115.75	112.94	8.43	10.92
50000.0	129.22	125.13	9.82	12.79
100000.0	135.09	130.38	10.42	13.59
500000.0	148.92	142.58	11.81	15.47
1000000.0	154.95	147.83	12.41	16.27

MACON,GEORGIA (1950-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 28.00
THE SAMPLE MEAN = 45.01
THE SAMPLE STANDARD DEVIATION = 7.59
THE SAMPLE MINIMUM = 31.99
THE SAMPLE MAXIMUM = 59.68

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
03/27/50	74.	56. SW	50.
02/01/51	74.	47. SW	42.
05/08/52	74.	65. SE	58.
07/15/53	74.	50. SE	44.
03/13/54	74.	60. S	53.
05/21/55	74.	36. SE	32.
04/15/56	74.	57. S	51.
04/01/57	74.	57. SE	51.
01/31/58	74.	47. SW	42.
01/21/59	74.	47. SW	42.
02/04/60	74.	36. NE	32.
04/09/61	74.	45. SE	40.
02/19/62	74.	38. E	34.
07/06/63	23.	38. NW	40.
02/19/64	23.	35. W	37.
02/25/65	23.	35. W	37.
02/13/66	23.	56. SW	60.
07/22/67	23.	42. SW	45.
03/22/68	23.	42. S	45.
06/28/69	23.	50. NW	53.
04/02/70	23.	38. W	40.
01/15/71	23.	40. NW	43.
03/02/72	23.	45. SW	48.
11/21/73	23.	48. NW	51.
03/21/74	23.	54. SW	58.
05/16/75	23.	46. SW	49.
07/04/76	23.	43. SW	46.
06/06/77	23.	36. NW	38.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	43.85	1.31	1.32
3.0	47.18	1.61	1.67
4.0	49.31	1.84	1.97
5.0	50.89	2.02	2.22
6.0	52.14	2.16	2.42
7.0	53.19	2.29	2.59
8.0	54.08	2.40	2.74
9.0	54.86	2.50	2.88
10.0	55.55	2.59	2.99
20.0	60.02	3.16	3.78
28.0	62.15	3.44	4.17
30.0	62.59	3.50	4.25
40.0	64.40	3.74	4.58
50.0	65.80	3.93	4.83
60.0	66.94	4.09	5.04
70.0	67.91	4.22	5.22
80.0	68.74	4.33	5.37
90.0	69.48	4.43	5.51
100.0	70.14	4.52	5.63
200.0	74.46	5.11	6.43
300.0	76.98	5.46	6.90
400.0	78.77	5.70	7.23
500.0	80.15	5.89	7.49
600.0	81.29	6.05	7.70
700.0	82.24	6.18	7.88
800.0	83.07	6.30	8.03
900.0	83.81	6.40	8.17
1000.0	84.46	6.49	8.29
2000.0	88.76	7.08	9.10
3000.0	91.28	7.43	9.57
4000.0	93.07	7.68	9.90
5000.0	94.45	7.87	10.16
6000.0	95.59	8.03	10.38
7000.0	96.54	8.17	10.56
8000.0	97.37	8.28	10.71
9000.0	98.10	8.38	10.85
10000.0	98.76	8.47	10.97
50000.0	108.75	9.87	12.85
100000.0	113.05	10.47	13.66
500000.0	123.06	11.86	15.54
1000000.0	127.36	12.47	16.35

SAVANNAH, GEORGIA (1946-1977) CAUTION -- SEE APPENDIX 1

THE SAMPLE NUMBER OF OBSERVATIONS = 32.00
THE SAMPLE MEAN = 47.64
THE SAMPLE STANDARD DEVIATION = 9.57
THE SAMPLE MINIMUM = 30.97
THE SAMPLE MAXIMUM = 79.34

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
02/10/46	51.	62. SW	58.
10/15/47	51.	85. NE	79.
04/01/48	51.	64. SW	60.
08/28/49	51.	52. SE	49.
04/27/50	51.	58. SW	54.
07/16/51	33.	51. SE	51.
06/02/52	33.	58. SE	58.
06/13/53	33.	66. E	66.
08/17/54	33.	58. N	58.
01/13/55	33.	46. NW	46.
09/24/56	33.	43. SW	43.
08/02/57	33.	44. N	44.
02/01/58	33.	41. NW	41.
09/29/59	33.	56. NW	56.
02/18/60	33.	44. W	44.
09/05/61	33.	47. NW	47.
09/06/62	33.	45. W	45.
04/12/63	33.	40. N	40.
07/09/64	33.	39. N	39.
05/12/65	33.	42. N	42.
02/13/66	33.	40. SW	40.
05/07/67	33.	31. SW	31.
07/31/68	20.	36. W	39.
07/02/69	20.	36. E	39.
06/27/70	20.	42. NW	46.
02/13/71	20.	38. W	42.
06/10/72	20.	41. NW	45.
03/17/73	20.	40. W	44.
03/21/74	20.	39. W	43.
01/25/75	20.	36. W	39.
02/01/76	20.	42. NW	46.
09/10/77	20.	47. W	51.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 6.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	45.45	46.18	1.55	1.55
3.0	49.30	50.35	1.90	1.97
4.0	51.95	53.02	2.17	2.33
5.0	54.02	55.00	2.38	2.62
6.0	55.73	56.57	2.55	2.86
7.0	57.19	57.88	2.70	3.06
8.0	58.47	59.00	2.83	3.24
9.0	59.62	59.98	2.95	3.39
10.0	60.65	60.84	3.05	3.53
20.0	67.85	66.45	3.73	4.46
30.0	72.39	69.67	4.13	5.01
32.0	73.14	70.18	4.20	5.10
40.0	75.79	71.95	4.42	5.40
50.0	78.54	73.70	4.64	5.70
60.0	80.85	75.14	4.82	5.95
70.0	82.86	76.35	4.98	6.16
80.0	84.64	77.39	5.11	6.34
90.0	86.25	78.31	5.23	6.50
100.0	87.71	79.14	5.34	6.64
200.0	97.97	84.56	6.03	7.59
300.0	104.54	87.72	6.44	8.14
400.0	109.48	89.96	6.73	8.53
500.0	113.47	91.70	6.96	8.84
600.0	116.84	93.12	7.14	9.09
700.0	119.78	94.32	7.30	9.30
800.0	122.38	95.36	7.43	9.48
900.0	124.72	96.28	7.55	9.64
1000.0	126.86	97.10	7.66	9.79
2000.0	141.88	102.50	8.36	10.74
3000.0	151.51	105.66	8.77	11.29
4000.0	158.74	107.90	9.07	11.69
5000.0	164.60	109.64	9.30	12.00
6000.0	169.55	111.06	9.48	12.25
7000.0	173.85	112.26	9.64	12.46
8000.0	177.67	113.30	9.77	12.64
9000.0	181.11	114.22	9.89	12.81
10000.0	184.24	115.04	10.00	12.95
50000.0	239.63	127.57	11.65	15.17
100000.0	268.46	132.96	12.36	16.12
500000.0	349.84	145.51	14.00	18.35
1000000.0	392.17	150.90	14.72	19.30

BOISE,IDAHO (1940-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 38.00
THE SAMPLE MEAN = 47.83
THE SAMPLE STANDARD DEVIATION = 5.29
THE SAMPLE MINIMUM = 37.60
THE SAMPLE MAXIMUM = 61.92

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
02/28/40	49.	47. SW	44.
01/06/41	49.	50. SE	47.
11/15/42	49.	56. NW	53.
07/03/43	44.	54. SW	52.
07/29/44	44.	61. W	58.
07/13/45	44.	50. SW	48.
04/29/46	44.	43. NW	41.
10/20/47	44.	47. NW	45.
06/30/48	44.	50. SW	48.
08/22/49	44.	50. SE	48.
10/26/50	44.	56. SE	53.
07/24/51	44.	56. S	53.
12/06/52	56.	49. SE	45.
11/23/53	56.	57. NW	53.
02/17/54	56.	56. W	52.
06/23/55	58.	45. NW	41.
05/26/56	58.	47. W	43.
03/09/57	58.	52. W	48.
03/31/58	58.	49. W	45.
04/06/59	19.	38. NW	42.
09/03/60	19.	50. SE	55.
12/20/61	19.	38. SW	42.
06/18/62	19.	38. SW	42.
08/09/63	19.	56. SE	62.
12/20/64	19.	40. SW	44.
03/16/65	19.	36. NW	40.
11/16/66	19.	45. SW	50.
06/21/67	19.	34. W	38.
07/19/68	19.	42. NW	46.
01/26/69	19.	41. SW	45.
06/26/70	19.	45. NW	50.
03/30/71	19.	44. NW	49.
05/20/72	19.	42. SE	46.
06/22/73	19.	47. SE	52.
02/26/74	19.	50. SW	55.
06/24/75	19.	42. SE	46.
03/22/76	19.	46. NW	51.
03/27/77	19.	42. NW	46.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	47.01	.79	.79
3.0	49.33	.96	1.00
4.0	50.81	1.10	1.18
5.0	51.92	1.21	1.33
6.0	52.79	1.30	1.45
7.0	53.52	1.37	1.55
8.0	54.14	1.44	1.64
9.0	54.68	1.49	1.72
10.0	55.17	1.55	1.79
20.0	58.28	1.89	2.26
30.0	60.08	2.10	2.54
38.0	61.12	2.22	2.70
40.0	61.34	2.24	2.74
50.0	62.32	2.35	2.89
60.0	63.12	2.45	3.02
70.0	63.79	2.52	3.12
80.0	64.37	2.59	3.21
90.0	64.88	2.65	3.30
100.0	65.34	2.71	3.37
200.0	68.35	3.06	3.85
300.0	70.11	3.27	4.13
400.0	71.36	3.41	4.33
500.0	72.33	3.53	4.48
600.0	73.12	3.62	4.61
700.0	73.79	3.70	4.71
800.0	74.37	3.77	4.81
900.0	74.88	3.83	4.89
1000.0	75.33	3.88	4.96
2000.0	78.34	4.24	5.44
3000.0	80.09	4.45	5.73
4000.0	81.34	4.60	5.93
5000.0	82.31	4.71	6.08
6000.0	83.10	4.81	6.21
7000.0	83.76	4.89	6.32
8000.0	84.34	4.96	6.41
9000.0	84.85	5.02	6.49
10000.0	85.31	5.07	6.57
50000.0	92.28	5.90	7.69
100000.0	95.28	6.26	8.17
500000.0	102.26	7.10	9.30
1000000.0	105.26	7.46	9.79

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POCATELLO,IDAHO (1939-1977)

      THE SAMPLE NUMBER OF OBSERVATIONS =      39.00
      THE SAMPLE MEAN                   =      53.34
      THE SAMPLE STANDARD DEVIATION     =       6.80
      THE SAMPLE MINIMUM                =      43.42
      THE SAMPLE MAXIMUM                =      71.58

  DATE     ANEMOMETER    FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                         AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

12/10/39     31.              56.  S                      57.
05/04/40     31.              43.  W                      43.
12/16/41     31.              45.  W                      45.
11/15/42     31.              56.  W                      57.
01/21/43     31.              59. SW                      60.
07/31/44     31.              43.  S                      43.
08/30/45     31.              52. NW                      53.
02/24/46     31.              52. SW                      53.
09/13/47     31.              46. SW                      46.
04/17/48     31.              43. SW                      43.
02/07/49     43.              49. SW                      47.
01/13/50     33.              57. SW                      57.
03/15/51     33.              52. SW                      52.
01/14/52     34.              61. SE                      61.
05/21/53     34.              61.  W                      61.
10/11/54     34.              54.  W                      54.
03/24/55     34.              72.  W                      72.
04/07/56     34.              61.  S                      61.
03/10/57     34.              47. SW                      47.
05/31/58     34.              55.  W                      55.
11/12/59     34.              61. SW                      61.
04/14/60     34.              56. SW                      56.
09/01/61     20.              57.  W                      62.
01/20/62     20.              47.  S                      51.
02/01/63     20.              57.  W                      62.
01/21/64     20.              42.  S                      46.
04/22/65     20.              46. SW                      50.
10/20/66     20.              54. SW                      59.
11/24/67     20.              48. SW                      53.
07/16/68     20.              57.  W                      62.
12/21/69     20.              43. SW                      47.
11/30/70     20.              43. SW                      47.
03/30/71     20.              47. SW                      51.
01/10/72     20.              54.  W                      59.
12/30/73     20.              47. SW                      51.
08/07/74     20.              53. SW                      58.
02/20/75     20.              42. SW                      46.
06/10/76     20.              43. SW                      47.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	52.30	1.00	1.00
3.0	55.22	1.22	1.27
4.0	57.09	1.39	1.50
5.0	58.48	1.53	1.68
6.0	59.58	1.64	1.84
7.0	60.49	1.74	1.97
8.0	61.27	1.82	2.08
9.0	61.96	1.90	2.18
10.0	62.56	1.96	2.27
20.0	66.49	2.40	2.87
30.0	68.74	2.66	3.22
39.0	70.19	2.83	3.45
40.0	70.33	2.84	3.47
50.0	71.56	2.99	3.67
60.0	72.56	3.10	3.83
70.0	73.41	3.20	3.96
80.0	74.14	3.29	4.08
90.0	74.79	3.36	4.18
100.0	75.37	3.43	4.27
200.0	79.16	3.88	4.88
300.0	81.37	4.14	5.23
400.0	82.94	4.33	5.49
500.0	84.16	4.47	5.68
600.0	85.15	4.59	5.84
700.0	85.99	4.69	5.98
800.0	86.72	4.78	6.10
900.0	87.36	4.86	6.20
1000.0	87.94	4.92	6.29
2000.0	91.71	5.38	6.90
3000.0	93.92	5.64	7.26
4000.0	95.49	5.83	7.52
5000.0	96.71	5.98	7.71
6000.0	97.70	6.10	7.87
7000.0	98.54	6.20	8.01
8000.0	99.27	6.28	8.13
9000.0	99.91	6.36	8.23
10000.0	100.48	6.43	8.33
50000.0	109.25	7.49	9.75
100000.0	113.03	7.94	10.37
500000.0	121.81	9.00	11.80
1000000.0	125.58	9.46	12.41

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    CHICAGO MIDWAY .ILLINOIS (1943-1977)


        THE SAMPLE NUMBER OF OBSERVATIONS =       35.00
        THE SAMPLE MEAN                   =       47.02
        THE SAMPLE STANDARD DEVIATION     =        4.77
        THE SAMPLE MINIMUM                =       37.42
        THE SAMPLE MAXIMUM                =       58.57


  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

04/27/43      36.                45. SW                       44.
05/25/44      36.                47.  S                       46.
03/17/45      36.                42.  W                       41.
11/21/46      36.                38.  W                       37.
09/22/47      36.                47.  N                       46.
12/05/48      36.                50. SW                       49.
08/31/49      38.                54. NW                       53.
05/05/50      38.                54.  S                       53.
04/28/51      38.                50. NW                       49.
11/26/52      38.                60. SW                       59.
06/04/53      38.                50.  W                       49.
03/25/54      38.                51.  W                       50.
03/22/55      38.                54. NW                       53.
03/10/56      38.                46. SW                       45.
03/15/57      38.                43.  W                       42.
11/17/58      48.                49. SW                       46.
05/28/59      48.                51.  W                       48.
03/22/60      48.                42. NW                       40.
03/27/61      48.                47. SW                       44.
04/09/62      48.                45.  W                       42.
06/08/63      20.                49.  N                       54.
05/08/64      20.                47. SW                       51.
12/24/65      20.                47. NE                       51.
07/18/66      20.                39.  W                       43.
02/15/67      20.                51. SW                       56.
11/28/68      20.                42. NE                       46.
04/21/69      20.                38.  W                       42.
07/02/70      20.                39. NW                       43.
11/01/71      20.                43.  S                       47.
01/24/72      20.                40. SW                       44.
04/19/73      20.                42. SE                       46.
07/14/74      20.                41.  W                       45.
11/30/75      20.                43.  S                       47.
06/13/76      20.                40.  E                       44.
03/29/77      20.                47.  S                       51.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	46.28	.74	.74
3.0	48.37	.90	.94
4.0	49.71	1.03	1.11
5.0	50.70	1.13	1.25
6.0	51.49	1.22	1.36
7.0	52.15	1.29	1.46
8.0	52.71	1.35	1.54
9.0	53.20	1.40	1.62
10.0	53.63	1.45	1.68
20.0	56.44	1.78	2.13
30.0	58.06	1.97	2.39
35.0	58.67	2.04	2.49
40.0	59.20	2.11	2.57
50.0	60.08	2.21	2.72
60.0	60.80	2.30	2.83
70.0	61.40	2.37	2.93
80.0	61.93	2.44	3.02
90.0	62.39	2.49	3.10
100.0	62.80	2.54	3.17
200.0	65.52	2.87	3.61
300.0	67.11	3.07	3.88
400.0	68.23	3.21	4.07
500.0	69.10	3.31	4.21
600.0	69.82	3.40	4.33
700.0	70.42	3.48	4.43
800.0	70.94	3.54	4.52
900.0	71.40	3.60	4.59
1000.0	71.81	3.65	4.66
2000.0	74.52	3.98	5.12
3000.0	76.10	4.18	5.38
4000.0	77.22	4.32	5.57
5000.0	78.10	4.43	5.72
6000.0	78.81	4.52	5.84
7000.0	79.41	4.59	5.94
8000.0	79.93	4.66	6.02
9000.0	80.39	4.71	6.10
10000.0	80.80	4.77	6.17
50000.0	87.09	5.55	7.23
100000.0	89.79	5.89	7.68
500000.0	96.08	6.67	8.74
1000000.0	98.79	7.01	9.20

MOLINE,ILLINOIS (1944-1977). REFER TO SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 34.00
THE SAMPLE MEAN = 54.78
THE SAMPLE STANDARD DEVIATION = 7.73
THE SAMPLE MINIMUM = 39.81
THE SAMPLE MAXIMUM = 72.08

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
05/03/44	50.	56. SW	52.
04/11/45	50.	70. SW	66.
08/09/46	50.	56. SW	52.
06/10/47	50.	77. SW	72.
12/05/48	50.	60. SW	56.
10/10/49	50.	56. SW	52.
05/05/50	54.	65. SW	60.
05/19/51	54.	57. SW	53.
03/23/52	54.	61. SW	56.
03/22/53	54.	66. S	61.
03/25/54	54.	66. SW	61.
05/06/55	54.	68. SW	63.
04/03/56	54.	69. SW	64.
03/15/57	54.	54. SW	50.
05/22/58	54.	43. W	40.
03/15/59	25.	45. NW	47.
02/10/60	25.	45. NE	47.
09/01/61	25.	44. SW	46.
11/23/62	25.	45. NW	47.
07/19/63	25.	59. NW	62.
05/08/64	25.	52. SW	55.
11/27/65	25.	46. W	48.
05/07/66	25.	63. NE	66.
05/18/67	25.	50. NW	52.
12/05/68	25.	44. NW	46.
07/03/69	25.	43. SW.	45.
05/09/70	25.	56. SW	59.
04/27/71	25.	47. E	49.
07/14/72	25.	49. W	51.
06/18/73	25.	57. SE	60.
06/20/74	25.	57. N	60.
12/14/75	25.	43. SW	45.
06/13/76	25.	64. NW	67.
07/10/77	25.	47. SE	49.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	53.59	1.21	1.22
3.0	56.96	1.49	1.55
4.0	59.11	1.70	1.82
5.0	60.71	1.86	2.05
6.0	61.98	2.00	2.24
7.0	63.03	2.12	2.40
8.0	63.93	2.22	2.53
9.0	64.72	2.31	2.66
10.0	65.42	2.39	2.77
20.0	69.94	2.92	3.50
30.0	72.54	3.24	3.92
34.0	73.34	3.34	4.06
40.0	74.38	3.46	4.23
50.0	75.79	3.64	4.47
60.0	76.95	3.78	4.66
70.0	77.93	3.90	4.82
80.0	78.77	4.00	4.96
90.0	79.51	4.10	5.09
100.0	80.18	4.18	5.20
200.0	84.55	4.72	5.94
300.0	87.10	5.04	6.37
400.0	88.91	5.27	6.68
500.0	90.31	5.45	6.92
600.0	91.46	5.59	7.12
700.0	92.43	5.71	7.28
800.0	93.27	5.82	7.42
900.0	94.01	5.91	7.55
1000.0	94.67	6.00	7.66
2000.0	99.03	6.55	8.41
3000.0	101.57	6.87	8.84
4000.0	103.38	7.10	9.15
5000.0	104.78	7.28	9.39
6000.0	105.93	7.42	9.59
7000.0	106.90	7.55	9.76
8000.0	107.73	7.65	9.90
9000.0	108.47	7.75	10.03
10000.0	109.14	7.83	10.14
50000.0	119.25	9.12	11.88
100000.0	123.60	9.68	12.63
500000.0	133.72	10.97	14.37
1000000.0	138.07	11.52	15.12

PEORIA,ILLINOIS (1943-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 35.00
THE SAMPLE MEAN = 52.04
THE SAMPLE STANDARD DEVIATION = 6.96
THE SAMPLE MINIMUM = 40.50
THE SAMPLE MAXIMUM = 70.21

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
07/28/43	26.	60. NW	63.
04/11/44	26.	50. E	52.
11/08/45	26.	50. SW	52.
06/12/46	26.	50. W	52.
04/05/47	26.	66. SW	69.
12/05/48	50.	58. SW	54.
01/27/49	50.	52. W	49.
05/05/50	50.	61. SW	57.
09/26/51	50.	50. W	47.
11/26/52	50.	50. SW	47.
07/05/53	50.	75. NW	70.
05/31/54	50.	55. SW	51.
03/22/55	50.	50. NW	47.
08/13/56	50.	65. W	61.
03/14/57	50.	52. SW	49.
10/09/58	50.	60. SW	56.
09/26/59	50.	60. W	56.
05/24/60	20.	47. NW	51.
03/27/61	20.	43. SW	47.
04/30/62	20.	40. W	44.
07/19/63	20.	41. NW	45.
11/20/64	20.	56. W	61.
09/14/65	20.	51. W	56.
03/31/66	20.	40. NW	44.
02/23/67	20.	46. NW	50.
12/04/68	20.	39. NW	43.
06/25/69	20.	43. W	47.
05/13/70	20.	44. NE	48.
12/15/71	20.	46. SW	50.
01/24/72	20.	37. W	41.
06/16/73	20.	54. NW	59.
07/14/74	20.	49. W	54.
07/23/75	20.	50. W	55.
03/04/76	20.	43. W	47.
03/30/77	20.	44. SW	48.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 350.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	50.95	50.96	1.08	1.08
3.0	54.01	54.03	1.32	1.37
4.0	55.98	55.99	1.50	1.62
5.0	57.44	57.45	1.65	1.82
6.0	58.60	58.61	1.77	1.98
7.0	59.56	59.57	1.88	2.13
8.0	60.39	60.39	1.97	2.25
9.0	61.11	61.11	2.05	2.36
10.0	61.75	61.75	2.12	2.46
20.0	65.89	65.87	2.59	3.10
30.0	68.28	68.24	2.87	3.48
35.0	69.18	69.14	2.98	3.63
40.0	69.96	69.92	3.07	3.75
50.0	71.26	71.21	3.23	3.96
60.0	72.33	72.26	3.35	4.13
70.0	73.23	73.15	3.46	4.28
80.0	74.00	73.92	3.55	4.40
90.0	74.69	74.60	3.63	4.52
100.0	75.30	75.21	3.71	4.61
200.0	79.33	79.20	4.19	5.27
300.0	81.69	81.52	4.47	5.65
400.0	83.36	83.17	4.68	5.93
500.0	84.66	84.45	4.83	6.14
600.0	85.72	85.50	4.96	6.31
700.0	86.62	86.38	5.07	6.46
800.0	87.40	87.15	5.16	6.59
900.0	88.08	87.82	5.25	6.70
1000.0	88.70	88.43	5.32	6.80
2000.0	92.74	92.40	5.81	7.46
3000.0	95.11	94.72	6.10	7.85
4000.0	96.79	96.37	6.30	8.12
5000.0	98.10	97.65	6.46	8.33
6000.0	99.17	98.69	6.59	8.51
7000.0	100.07	99.58	6.70	8.66
8000.0	100.85	100.34	6.79	8.78
9000.0	101.54	101.02	6.87	8.90
10000.0	102.16	101.62	6.95	9.00
50000.0	111.62	110.84	8.09	10.54
100000.0	115.71	114.81	8.58	11.20
500000.0	125.24	124.04	9.73	12.74
1000000.0	129.36	128.01	10.22	13.41

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SPRINGFIELD,ILLINOIS (1948- 1977)

        THE SAMPLE NUMBER OF OBSERVATIONS =       30.00
        THE SAMPLE MEAN                   =       54.15
        THE SAMPLE STANDARD DEVIATION     =        5.96
        THE SAMPLE MINIMUM                =       45.97
        THE SAMPLE MAXIMUM                =       70.63

  DATE     ANEMOMETER    FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                         AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

12/06/48      48.             66. SW                       62.
01/27/49      48.             65. SW                       61.
05/05/50      48.             57. SW                       54.
08/15/51      48.             58.  W                       55.
03/23/52      48.             59.  W                       56.
12/14/53      48.             58.  W                       55.
08/18/54      48.             50.  W                       47.
05/26/55      48.             56. SW                       53.
06/26/56      48.             54. SW                       51.
06/14/57      48.             75. SW                       71.
05/31/58      48.             51.  N                       48.
03/06/59      48.             57.  W                       54.
05/25/60      48.             58.  W                       55.
03/27/61      48.             65. SW                       61.
07/13/62      48.             73. SW                       69.
06/10/63      20.             49. NW                       54.
06/21/64      20.             48.  W                       53.
03/17/65      20.             45.  W                       49.
03/23/66      20.             42.  W                       46.
01/06/67      20.             51. SW                       56.
12/22/68      20.             42. SW                       46.
06/28/69      20.             48. NW                       53.
06/14/70      20.             50. NE                       55.
12/15/71      20.             54. SW                       59.
01/24/72      20.             45.  W                       49.
04/20/73      20.             45. SE                       49.
05/30/74      20.             48. NE                       53.
11/29/75      20.             49. SW                       54.
03/12/76      20.             48. SW                       53.
04/02/77      20.             44.  W                       48.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 9.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	52.93	53.23	1.00	1.00
3.0	55.42	55.85	1.22	1.27
4.0	57.09	57.52	1.39	1.50
5.0	58.37	58.76	1.53	1.68
6.0	59.42	59.75	1.64	1.84
7.0	60.30	60.57	1.74	1.97
8.0	61.07	61.27	1.82	2.08
9.0	61.76	61.88	1.90	2.18
10.0	62.37	62.42	1.96	2.27
20.0	66.54	65.93	2.40	2.87
30.0	69.09	67.95	2.66	3.22
30.0	69.09	67.95	2.66	3.22
40.0	70.96	69.38	2.84	3.48
50.0	72.45	70.48	2.99	3.67
60.0	73.69	71.37	3.10	3.83
70.0	74.75	72.13	3.20	3.96
80.0	75.69	72.79	3.29	4.08
90.0	76.53	73.37	3.37	4.18
100.0	77.29	73.88	3.43	4.27
200.0	82.51	77.28	3.88	4.88
300.0	85.75	79.26	4.14	5.24
400.0	88.14	80.66	4.33	5.49
500.0	90.04	81.75	4.48	5.69
600.0	91.63	82.64	4.60	5.85
700.0	93.00	83.39	4.70	5.98
800.0	94.21	84.05	4.78	6.10
900.0	95.29	84.62	4.86	6.20
1000.0	96.27	85.13	4.93	6.30
2000.0	102.99	88.52	5.38	6.91
3000.0	107.16	90.49	5.65	7.27
4000.0	110.24	91.90	5.83	7.52
5000.0	112.70	92.99	5.98	7.72
6000.0	114.75	93.88	6.10	7.88
7000.0	116.52	94.63	6.20	8.02
8000.0	118.08	95.28	6.29	8.14
9000.0	119.47	95.85	6.37	8.24
10000.0	120.74	96.37	6.44	8.33
50000.0	141.96	104.22	7.49	9.76
100000.0	152.33	107.60	7.95	10.37
500000.0	179.77	115.45	9.01	11.80
1000000.0	193.17	118.83	9.47	12.42

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EVANSVILLE,INDIANA (1941-1977)

     THE SAMPLE NUMBER OF OBSERVATIONS =      37.00
     THE SAMPLE MEAN                   =      46.65
     THE SAMPLE STANDARD DEVIATION     =       6.11
     THE SAMPLE MINIMUM                =      36.12
     THE SAMPLE MAXIMUM                =      61.30

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

07/07/41      40.               53. NW                     51.
06/11/42      40.               50.  S                     48.
08/04/43      40.               49. SW                     47.
03/04/44      40.               54.  W                     52.
03/17/45      40.               56.  S                     54.
02/13/46      40.               52. SW                     50.
03/24/47      40.               50.  W                     48.
03/19/48      40.               54. SW                     52.
06/24/49      40.               56.  S                     54.
11/20/50      40.               40. SW                     39.
05/27/51      64.               45. NW                     41.
06/30/52      64.               47. NW                     43.
04/30/53      64.               49. SE                     44.
02/20/54      64.               54. SE                     49.
03/01/55      64.               47. SW                     43.
02/25/56      64.               59.  W                     53.
06/12/57      64.               57. NW                     52.
06/10/58      64.               58. NW                     52.
03/05/59      64.               53. SE                     48.
05/24/60      64.               42. NW                     38.
05/07/61      64.               47. NW                     43.
04/30/62      20.               43. SW                     47.
08/28/63      20.               49. NW                     54.
03/04/64      20.               43.  S                     47.
05/18/65      20.               42. NW                     46.
07/06/66      20.               38. NW                     42.
02/15/67      20.               39.  W                     43.
11/28/68      20.               36.  S                     39.
05/10/69      20.               35.  W                     38.
04/19/70      20.               34. SW                     37.
12/10/71      20.               56. SW                     61.
07/15/72      20.               33. SW                     36.
01/26/74      20.               41.  S                     45.
04/07/74      20.               34. SW                     37.
05/25/75      20.               49. SW                     54.
01/13/76      20.               43.  W                     47.
06/30/77      20.               46.  W                     50.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	45.73	.92	.92
3.0	48.33	1.13	1.17
4.0	50.00	1.28	1.38
5.0	51.23	1.41	1.55
6.0	52.21	1.51	1.69
7.0	53.03	1.60	1.81
8.0	53.72	1.68	1.92
9.0	54.33	1.75	2.01
10.0	54.87	1.81	2.10
20.0	58.37	2.21	2.65
30.0	60.38	2.45	2.97
37.0	61.41	2.58	3.14
40.0	61.80	2.62	3.20
50.0	62.89	2.75	3.38
60.0	63.79	2.86	3.53
70.0	64.54	2.95	3.65
80.0	65.19	3.03	3.76
90.0	65.77	3.10	3.86
100.0	66.28	3.16	3.94
200.0	69.66	3.58	4.50
300.0	71.63	3.82	4.83
400.0	73.03	3.99	5.06
500.0	74.12	4.13	5.24
600.0	75.00	4.24	5.39
700.0	75.75	4.33	5.51
800.0	76.40	4.41	5.62
900.0	76.97	4.48	5.72
1000.0	77.48	4.54	5.80
2000.0	80.85	4.96	6.37
3000.0	82.82	5.20	6.70
4000.0	84.22	5.38	6.93
5000.0	85.30	5.51	7.12
6000.0	86.19	5.62	7.26
7000.0	86.94	5.72	7.39
8000.0	87.58	5.80	7.50
9000.0	88.16	5.87	7.59
10000.0	88.67	5.93	7.68
50000.0	96.48	6.91	9.00
100000.0	99.85	7.33	9.56
500000.0	107.67	8.31	10.88
1000000.0	111.03	8.73	11.45

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    FORT WAYNE,INDIANA (1942-1977)


          THE SAMPLE NUMBER OF OBSERVATIONS =        36.00
          THE SAMPLE MEAN                   =        53.02
          THE SAMPLE STANDARD DEVIATION     =         6.62
          THE SAMPLE MINIMUM                =        41.97
          THE SAMPLE MAXIMUM                =        68.96


   DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED   WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)   GROUND (CORRECTED SPEED)

 03/09/42      33.                 50. NW                     50.
 06/15/43      33.                 42.  W                     42.
 02/22/44      33.                 43.  W                     43.
 07/25/45      33.                 49. NW                     49.
 11/21/46      33.                 42.  W                     42.
 04/06/47      34.                 50. SW                     50.
 03/19/48      34.                 65.  S                     65.
 01/18/49      34.                 59. SW                     59.
 06/16/50      34.                 43. NW                     43.
 06/27/51      34.                 57.  S                     57.
 11/25/52      34.                 49. SE                     49.
 04/10/53      62.                 60.  W                     55.
 07/20/54      62.                 61. NW                     55.
 03/22/55      62.                 63. SW                     57.
 11/15/56      62.                 54. SW                     49.
 04/05/57      62.                 57. SW                     52.
 05/22/58      68.                 51. SW                     46.
 03/15/59      68.                 57. SW                     51.
 05/20/60      68.                 57.  S                     51.
 03/06/61      68.                 57. SW                     51.
 04/30/62      20.                 63.  W                     69.
 04/17/63      20.                 47. NE                     51.
 03/05/64      20.                 52. SW                     57.
 08/27/65      20.                 51.  N                     56.
 07/12/66      20.                 43.  N                     47.
 02/15/67      20.                 61.  E                     67.
 06/11/68      20.                 54. SW                     59.
 05/31/69      20.                 56.  W                     61.
 05/15/70      20.                 52. SW                     57.
 12/15/71      20.                 49. SW                     54.
 01/25/72      20.                 53.  W                     58.
 06/26/73      20.                 47.  W                     51.
 06/20/74      20.                 49.  W                     54.
 01/10/75      20.                 50. SW                     55.
 03/12/76      20.                 40.  W                     44.
 01/26/77      20.                 50.  W                     55.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	51.99	1.01	1.01
3.0	54.88	1.24	1.29
4.0	56.73	1.41	1.52
5.0	58.10	1.55	1.71
6.0	59.19	1.67	1.86
7.0	60.10	1.76	2.00
8.0	60.87	1.85	2.11
9.0	61.55	1.92	2.21
10.0	62.15	1.99	2.31
20.0	66.03	2.44	2.91
30.0	68.26	2.70	3.27
36.0	69.26	2.82	3.43
40.0	69.84	2.88	3.52
50.0	71.05	3.03	3.72
60.0	72.05	3.15	3.88
70.0	72.88	3.25	4.02
80.0	73.61	3.34	4.14
90.0	74.25	3.41	4.24
100.0	74.82	3.48	4.33
200.0	78.57	3.94	4.95
300.0	80.76	4.20	5.31
400.0	82.31	4.39	5.57
500.0	83.52	4.54	5.77
600.0	84.50	4.66	5.93
700.0	85.33	4.76	6.07
800.0	86.05	4.85	6.19
900.0	86.69	4.93	6.29
1000.0	87.26	5.00	6.39
2000.0	90.99	5.46	7.01
3000.0	93.18	5.72	7.37
4000.0	94.73	5.92	7.63
5000.0	95.94	6.06	7.83
6000.0	96.92	6.19	7.99
7000.0	97.75	6.29	8.13
8000.0	98.47	6.38	8.25
9000.0	99.11	6.46	8.35
10000.0	99.67	6.53	8.45
50000.0	108.35	7.60	9.89
100000.0	112.09	8.06	10.52
500000.0	120.77	9.14	11.97
1000000.0	124.51	9.60	12.59

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    INDIANOPOLIS.INDIANA (1944-1977). SEE SECT. 2.1

          THE SAMPLE NUMBER OF OBSERVATIONS =        34.00
          THE SAMPLE MEAN                   =        55.45
          THE SAMPLE STANDARD DEVIATION     =        11.17
          THE SAMPLE MINIMUM                =        40.50
          THE SAMPLE MAXIMUM                =        93.04

   DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

 02/22/44      54.            52. SW                         48.
 05/14/45      54.            68. NW                         63.
 06/13/46      54.            77.  N                         71.
 03/24/47      54.            68. NW                         63.
 03/19/48      54.            66. SW                         61.
 01/19/49      54.            80. SW                         74.
 01/25/50      54.            90.  W                         83.
 05/03/51      59.            68.  W                         62.
 09/18/52      59.            61. NW                         56.
 07/05/53      59.            57. NW                         52.
 03/03/54      59.            56. NW                         51.
 03/11/55      59.            56. NW                         51.
 04/07/56      59.            60.  W                         55.
 07/08/57      59.            57.  W                         52.
 06/10/58      59.            59. NW                         54.
 03/15/59      59.            52. SW                         48.
 04/08/60      20.            42. NW                         46.
 02/25/61      20.            40.  N                         44.
 10/07/62      20.            85. SW                         93.
 04/22/63      20.            50.  N                         55.
 03/05/64      20.            51. SW                         56.
 11/26/65      20.            50. SW                         55.
 07/11/66      20.            44. NW                         48.
 02/15/67      20.            49.  W                         54.
 12/05/68      20.            42. NW                         46.
 06/01/69      20.            40. SW                         44.
 12/03/70      20.            45.  W                         49.
 06/11/71      20.            55.  W                         60.
 04/07/72      20.            48.  N                         53.
 03/11/73      20.            44. SW                         48.
 01/26/74      20.            44. SW                         48.
 01/10/75      20.            49. SW                         54.
 03/30/76      20.            37. SW                         41.
 01/26/77      20.            44.  W                         48.
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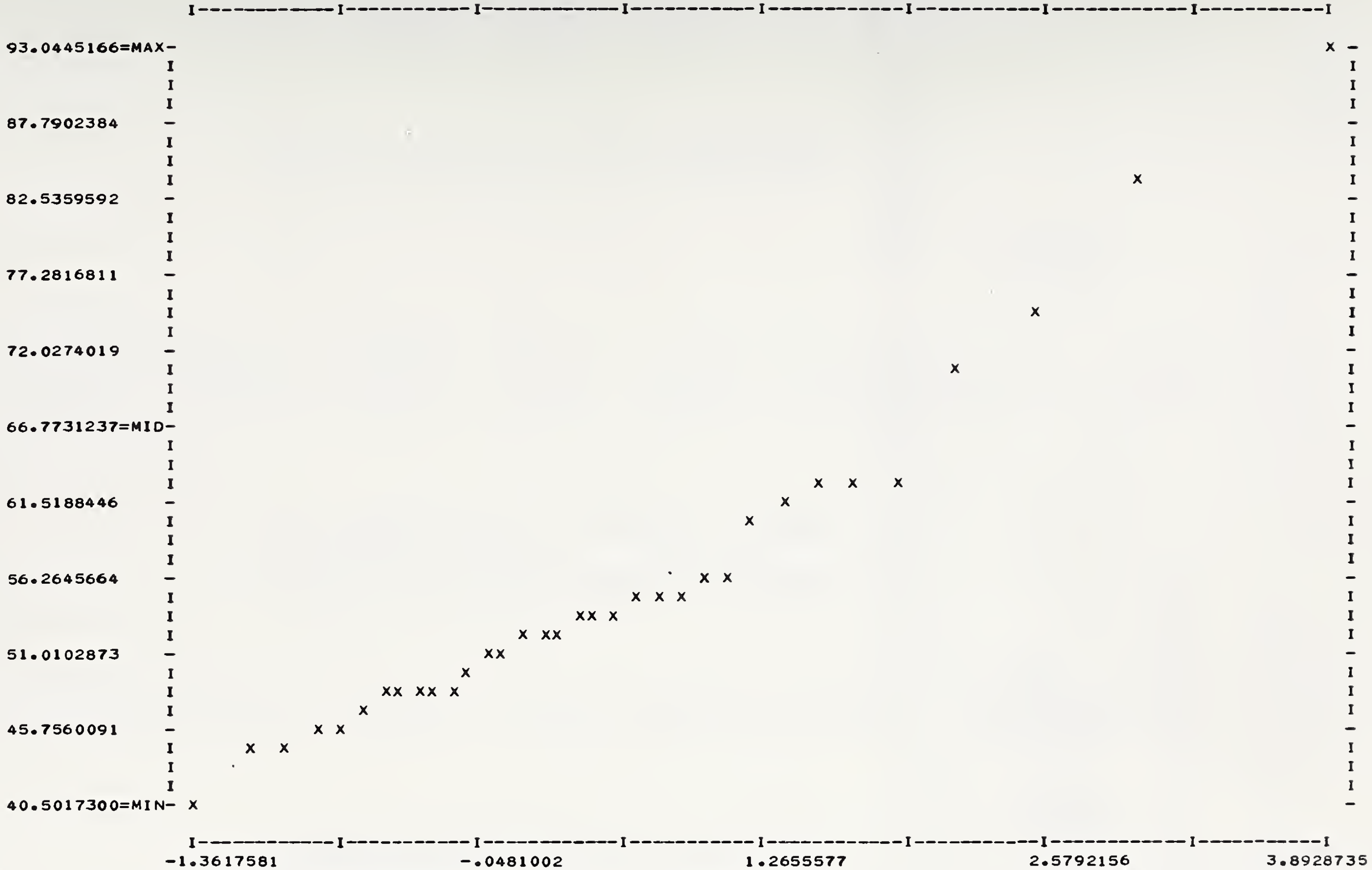
RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 4.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	52.53	53.75	1.75	1.76
3.0	56.74	58.57	2.15	2.24
4.0	59.74	61.65	2.45	2.64
5.0	62.14	63.94	2.69	2.96
6.0	64.16	65.75	2.89	3.23
7.0	65.91	67.26	3.06	3.46
8.0	67.47	68.55	3.21	3.67
9.0	68.88	69.68	3.34	3.84
10.0	70.18	70.68	3.46	4.00
20.0	79.44	77.15	4.23	5.06
30.0	85.57	80.87	4.68	5.67
34.0	87.59	82.02	4.82	5.87
40.0	90.30	83.50	5.01	6.11
50.0	94.19	85.53	5.26	6.46
60.0	97.53	87.18	5.46	6.74
70.0	100.48	88.58	5.64	6.97
80.0	103.12	89.79	5.79	7.18
90.0	105.52	90.85	5.92	7.36
100.0	107.73	91.80	6.04	7.52
200.0	123.79	98.06	6.83	8.59
300.0	134.55	101.71	7.29	9.22
400.0	142.86	104.30	7.62	9.66
500.0	149.74	106.31	7.88	10.01
600.0	155.64	107.95	8.09	10.29
700.0	160.85	109.33	8.26	10.53
800.0	165.53	110.54	8.42	10.74
900.0	169.78	111.59	8.55	10.92
1000.0	173.70	112.54	8.67	11.08
2000.0	202.19	118.78	9.47	12.16
3000.0	221.29	122.42	9.94	12.79
4000.0	236.06	125.01	10.27	13.24
5000.0	248.28	127.01	10.52	13.58
6000.0	258.77	128.65	10.74	13.87
7000.0	268.03	130.04	10.91	14.11
8000.0	276.34	131.24	11.07	14.32
9000.0	283.91	132.30	11.20	14.50
10000.0	290.87	133.25	11.32	14.66
50000.0	423.47	147.71	13.19	17.17
100000.0	499.21	153.94	13.99	18.26
500000.0	735.27	168.42	15.86	20.77
1000000.0	870.00	174.66	16.66	21.86



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EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =    .15618669+01)                  THE SAMPLE SIZE N =      34
PROBABILITY PLOT CORRELATION COEFFICIENT =   .97030     ESTIMATED INTERCEPT =    .50452815+02   ESTIMATED SLOPE =    .89889988+01
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BURLINGTON.IOWA (1942-1964)

        THE SAMPLE NUMBER OF OBSERVATIONS =      23.00
        THE SAMPLE MEAN                   =      56.04
        THE SAMPLE STANDARD DEVIATION     =       9.23
        THE SAMPLE MINIMUM                =      42.16
        THE SAMPLE MAXIMUM                =      71.94

  DATE      ANEMOMETER     FASTEST MILE WIND  SPEED   CALCULATED  FASTEST MILE
          ELEVATION(FT)    AND DIRECTION  (RECORDED   WIND SPEED AT 10M  ABOVE
                           AT ANEMOMETER ELEVATION)   GROUND (CORRECTED SPEED)

05/01/42     37.                 43. SW                       42.
12/12/43     37.                 56. NW                       55.
06/25/44     37.                 70. NW                       69.
05/21/45     37.                 63. SW                       62.
08/09/46     37.                 56.  W                       55.
08/30/47     37.                 73.  N                       72.
12/05/48     37.                 72. SW                       71.
10/10/49     37.                 47. SW                       46.
05/05/50     33.                 68. SW                       68.
11/03/51     33.                 47.  W                       47.
01/19/52     33.                 49.  W                       49.
10/03/53     33.                 63.  W                       63.
04/26/54     33.                 56.  W                       56.
04/23/55     33.                 54. SW                       54.
04/03/56     33.                 56. SW                       56.
03/15/57     33.                 49.  W                       49.
11/05/58     33.                 43. NW                       43.
03/15/59     33.                 54. NW                       54.
06/01/60     33.                 56. NW                       56.
03/27/61     33.                 48. SW                       48.
09/13/62     33.                 56.  W                       56.
03/20/63     33.                 48.  W                       48.
06/20/64     33.                 72. NW                       72.
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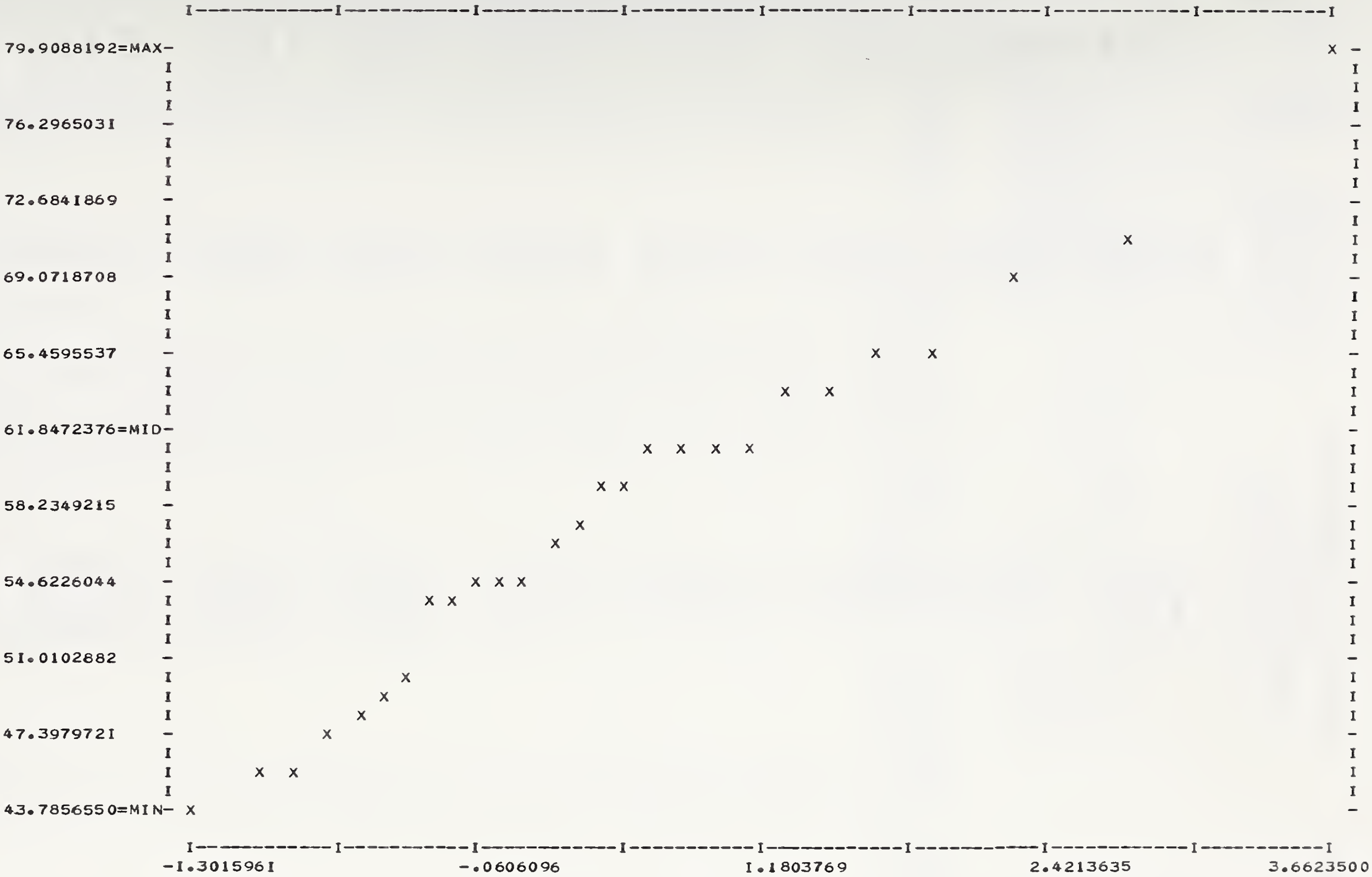
RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	54.67	1.76	1.77
3.0	58.71	2.16	2.25
4.0	61.30	2.46	2.65
5.0	63.22	2.71	2.98
6.0	64.75	2.90	3.25
7.0	66.01	3.07	3.48
8.0	67.10	3.22	3.68
9.0	68.04	3.35	3.86
10.0	68.89	3.47	4.02
20.0	74.32	4.25	5.08
23.0	75.40	4.40	5.29
30.0	77.44	4.70	5.70
40.0	79.65	5.03	6.14
50.0	81.35	5.28	6.48
60.0	82.74	5.49	6.77
70.0	83.91	5.66	7.00
80.0	84.93	5.81	7.21
90.0	85.82	5.95	7.39
100.0	86.62	6.07	7.55
200.0	91.87	6.86	8.63
300.0	94.94	7.32	9.26
400.0	97.11	7.65	9.70
500.0	98.80	7.91	10.05
600.0	100.18	8.12	10.33
700.0	101.34	8.30	10.57
800.0	102.35	8.45	10.78
900.0	103.24	8.59	10.97
1000.0	104.04	8.71	11.13
2000.0	109.27	9.51	12.21
3000.0	112.33	9.98	12.84
4000.0	114.50	10.31	13.29
5000.0	116.19	10.57	13.64
6000.0	117.56	10.78	13.93
7000.0	118.73	10.96	14.17
8000.0	119.74	11.12	14.38
9000.0	120.62	11.25	14.56
10000.0	121.42	11.37	14.73
50000.0	133.57	13.24	17.25
100000.0	138.80	14.05	18.33
500000.0	150.96	15.93	20.86
1000000.0	156.19	16.73	21.95

DES MOINES, IOWA (1951-1977). REFER TO SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 27.00
THE SAMPLE MEAN = 57.66
THE SAMPLE STANDARD DEVIATION = 8.54
THE SAMPLE MINIMUM = 43.79
THE SAMPLE MAXIMUM = 79.91

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
11/03/51	63.	63.	NW	57.
11/26/52	63.	72.	W	65.
06/07/53	63.	76.	NW	69.
06/12/54	63.	65.	SE	59.
05/28/55	63.	70.	W	63.
06/19/56	69.	63.	W	56.
11/08/57	69.	68.	NW	61.
07/01/58	69.	61.	SE	55.
05/18/59	69.	54.	NE	48.
08/24/60	69.	60.	S	54.
07/12/61	20.	50.	SW	55.
05/18/62	20.	56.	SW	61.
06/28/63	20.	56.	NE	61.
05/08/64	20.	65.	SW	71.
06/27/65	20.	60.	SW	66.
07/05/66	20.	54.	NW	59.
04/17/67	20.	50.	NW	55.
07/08/68	20.	73.	W	80.
06/26/69	20.	58.	SW	63.
07/02/70	20.	56.	NW	61.
07/08/71	20.	45.	NW	49.
05/01/72	20.	42.	SW	46.
06/16/73	20.	49.	SW	54.
06/14/74	20.	40.	E	44.
01/11/75	20.	42.	NW	46.
06/14/76	20.	46.	S	50.
03/29/77	20.	43.	SW	47.



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EXTREME VALUE TYPE I (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =    .15618669+01)            THE SAMPLE SIZE N =      27
PROBABILITY PLOT CORRELATION COEFFICIENT =    .98917     ESTIMATED INTERCEPT =    .53754795+02   ESTIMATED SLOPE =    .70743124+01
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	56.35	1.50	1.51
3.0	60.14	1.84	1.92
4.0	62.57	2.10	2.26
5.0	64.37	2.31	2.54
6.0	65.80	2.48	2.77
7.0	66.98	2.62	2.97
8.0	68.00	2.75	3.14
9.0	68.89	2.86	3.29
10.0	69.67	2.96	3.43
20.0	74.77	3.62	4.33
27.0	76.94	3.91	4.73
30.0	77.70	4.01	4.87
40.0	79.76	4.29	5.24
50.0	81.36	4.51	5.54
60.0	82.66	4.68	5.78
70.0	83.76	4.83	5.98
80.0	84.71	4.96	6.15
90.0	85.55	5.08	6.31
100.0	86.30	5.18	6.45
200.0	91.22	5.86	7.37
300.0	94.09	6.25	7.90
400.0	96.13	6.53	8.28
500.0	97.71	6.75	8.58
600.0	99.00	6.93	8.82
700.0	100.09	7.08	9.03
800.0	101.04	7.22	9.20
900.0	101.87	7.33	9.36
1000.0	102.62	7.44	9.50
2000.0	107.52	8.12	10.42
3000.0	110.39	8.52	10.96
4000.0	112.43	8.80	11.35
5000.0	114.01	9.02	11.65
6000.0	115.30	9.20	11.89
7000.0	116.39	9.36	12.10
8000.0	117.33	9.49	12.27
9000.0	118.17	9.61	12.43
10000.0	118.91	9.71	12.57
50000.0	130.30	11.31	14.72
100000.0	135.20	11.99	15.65
500000.0	146.60	13.60	17.81
1000000.0	151.50	14.29	18.74

SIOUX CITY,IOWA (1942-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 36.00
THE SAMPLE MEAN = 57.64
THE SAMPLE STANDARD DEVIATION = 9.23
THE SAMPLE MINIMUM = 42.29
THE SAMPLE MAXIMUM = 88.11

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
04/27/42	27.	54.	S	56.
03/16/43	40.	53.	NW	51.
09/15/44	40.	50.	W	48.
06/27/45	40.	91.	W	88.
04/03/46	40.	68.	W	66.
06/09/47	40.	72.	W	70.
12/05/48	40.	50.	NW	48.
10/10/49	40.	70.	W	68.
03/07/50	40.	61.	N	59.
08/14/51	40.	56.	NW	54.
07/06/52	40.	58.	NW	56.
05/10/53	40.	49.	SW	47.
11/24/54	103.	59.	NW	51.
04/03/55	103.	66.	S	57.
05/10/56	103.	80.	W	69.
08/17/57	103.	66.	S	57.
06/08/58	24.	65.	N	69.
05/02/59	24.	54.	S	57.
11/28/60	24.	49.	NW	52.
04/15/61	24.	47.	NW	50.
05/13/62	24.	70.	SW	74.
12/08/63	24.	51.	NW	54.
05/05/64	24.	57.	SW	60.
03/17/65	24.	60.	NW	63.
03/31/66	24.	49.	NW	52.
07/09/67	24.	66.	NW	70.
12/22/68	24.	53.	NW	56.
07/04/69	24.	52.	SW	55.
06/15/70	24.	54.	NW	57.
01/25/71	24.	44.	NW	47.
05/01/72	24.	47.	SW	50.
06/18/73	24.	52.	N	55.
06/22/74	24.	40.	N	42.
11/12/75	24.	47.	NW	50.
04/16/76	24.	56.	S	59.
11/09/77	24.	56.	NW	59.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 11.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	55.80	56.20	1.41	1.41
3.0	59.68	60.24	1.73	1.79
4.0	62.26	62.83	1.97	2.12
5.0	64.22	64.74	2.16	2.38
6.0	65.82	66.26	2.32	2.60
7.0	67.16	67.53	2.46	2.78
8.0	68.33	68.61	2.58	2.94
9.0	69.37	69.55	2.68	3.08
10.0	70.30	70.39	2.77	3.21
20.0	76.52	75.81	3.39	4.06
30.0	80.29	78.93	3.76	4.56
36.0	82.03	80.33	3.92	4.78
40.0	83.04	81.13	4.02	4.91
50.0	85.21	82.83	4.22	5.18
60.0	87.02	84.22	4.39	5.41
70.0	88.56	85.39	4.53	5.60
80.0	89.92	86.40	4.65	5.76
90.0	91.13	87.29	4.75	5.91
100.0	92.22	88.09	4.85	6.04
200.0	99.66	93.33	5.48	6.90
300.0	104.23	96.39	5.85	7.40
400.0	107.58	98.56	6.12	7.76
500.0	110.23	100.24	6.32	8.03
600.0	112.44	101.62	6.49	8.26
700.0	114.33	102.78	6.63	8.45
800.0	116.00	103.79	6.76	8.62
900.0	117.48	104.68	6.86	8.76
1000.0	118.82	105.47	6.96	8.90
2000.0	127.97	110.69	7.60	9.76
3000.0	133.60	113.75	7.98	10.27
4000.0	137.71	115.91	8.24	10.63
5000.0	140.98	117.60	8.45	10.90
6000.0	143.70	118.97	8.62	11.13
7000.0	146.04	120.13	8.76	11.32
8000.0	148.09	121.14	8.88	11.49
9000.0	149.92	122.02	8.99	11.64
10000.0	151.57	122.82	9.09	11.77
50000.0	178.88	134.94	10.59	13.79
100000.0	191.93	140.16	11.23	14.65
500000.0	225.64	152.30	12.73	16.67
1000000.0	241.73	157.52	13.38	17.54

CONCORDIA,KANSAS (1962-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 16.00
THE SAMPLE MEAN = 58.62
THE SAMPLE STANDARD DEVIATION = 9.41
THE SAMPLE MINIMUM = 45.54
THE SAMPLE MAXIMUM = 73.73

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
12/08/62	21.	42. NW	46.
03/16/63	21.	63. SW	68.
06/21/64	21.	52. W	56.
03/17/65	21.	54. NW	59.
03/22/66	21.	49. NW	53.
06/09/67	21.	67. NE	73.
07/17/68	21.	61. NW	66.
09/04/69	21.	53. NW	57.
06/14/70	21.	64. W	69.
03/18/71	21.	68. NW	74.
04/17/72	21.	42. S	46.
04/19/73	21.	46. S	50.
05/19/74	21.	52. SW	56.
06/02/75	21.	54. NW	59.
02/20/76	21.	56. NE	61.
04/10/77	21.	42. S	46.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	57.26	2.15	2.16
3.0	61.47	2.64	2.74
4.0	64.16	3.01	3.24
5.0	66.16	3.31	3.64
6.0	67.74	3.55	3.97
7.0	69.06	3.76	4.25
8.0	70.19	3.94	4.50
9.0	71.17	4.10	4.72
10.0	72.05	4.24	4.91
16.0	75.89	4.88	5.79
20.0	77.70	5.19	6.20
30.0	80.95	5.75	6.96
40.0	83.24	6.14	7.50
50.0	85.01	6.45	7.92
60.0	86.46	6.70	8.27
70.0	87.67	6.92	8.56
80.0	88.73	7.10	8.81
90.0	89.66	7.27	9.03
100.0	90.49	7.41	9.23
200.0	95.95	8.38	10.54
300.0	99.14	8.95	11.31
400.0	101.40	9.35	11.86
500.0	103.15	9.67	12.28
600.0	104.59	9.92	12.63
700.0	105.80	10.14	12.92
800.0	106.85	10.33	13.18
900.0	107.77	10.49	13.40
1000.0	108.60	10.64	13.60
2000.0	114.04	11.62	14.92
3000.0	117.22	12.19	15.70
4000.0	119.48	12.60	16.24
5000.0	121.23	12.92	16.67
6000.0	122.67	13.18	17.02
7000.0	123.88	13.39	17.31
8000.0	124.92	13.58	17.57
9000.0	125.85	13.75	17.79
10000.0	126.68	13.90	18.00
50000.0	139.31	16.18	21.08
100000.0	144.75	17.17	22.40
500000.0	157.39	19.46	25.49
1000000.0	162.83	20.45	26.82

DODGE CITY,KANSAS (1943-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 35.00
THE SAMPLE MEAN = 60.64
THE SAMPLE STANDARD DEVIATION = 6.03
THE SAMPLE MINIMUM = 49.26
THE SAMPLE MAXIMUM = 71.51

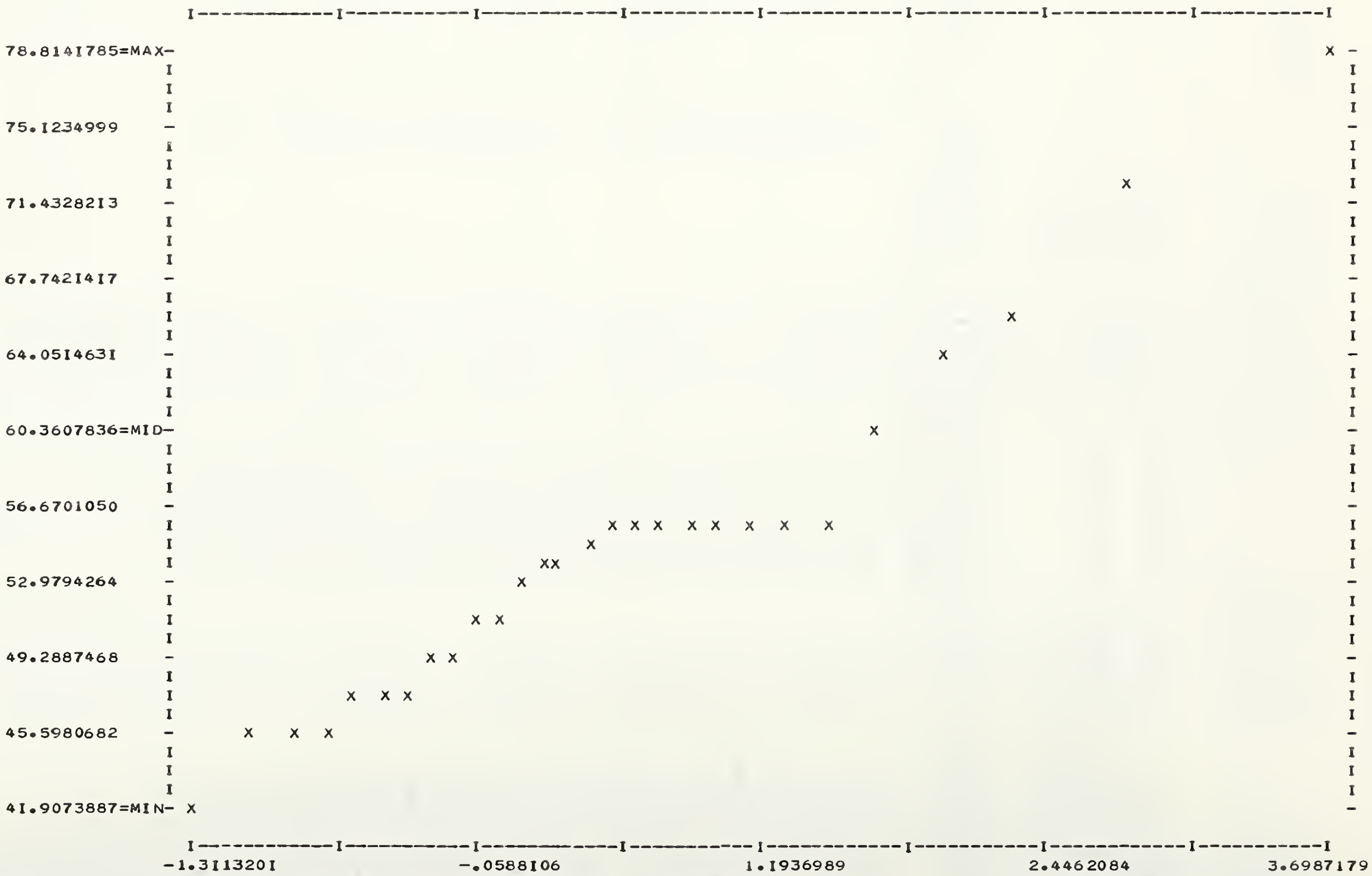
DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
11/07/43	58.	57.	NW	52.
08/29/44	58.	72.	NW	66.
03/23/45	58.	63.	SW	58.
02/05/46	58.	59.	W	54.
06/03/47	58.	73.	S	67.
04/03/48	58.	69.	S	63.
06/23/49	58.	63.	S	58.
03/07/50	58.	73.	NW	67.
07/04/51	58.	78.	SW	72.
03/12/52	58.	74.	NW	68.
02/20/53	58.	72.	NW	66.
02/19/54	58.	68.	N	62.
05/02/55	58.	70.	SW	64.
06/23/56	58.	63.	S	58.
06/21/57	58.	72.	NW	66.
04/05/58	58.	61.	NW	56.
05/20/59	58.	71.	W	65.
04/16/60	58.	56.	N	51.
12/22/61	20.	54.	NW	59.
04/03/62	20.	55.	S	60.
04/02/63	20.	53.	S	58.
07/04/64	20.	65.	S	71.
08/09/65	20.	57.	NW	62.
03/22/66	20.	56.	NW	61.
06/28/67	20.	50.	S	55.
03/17/68	20.	50.	S	55.
01/08/69	20.	45.	N	49.
12/30/70	20.	48.	NW	53.
03/18/71	20.	63.	NW	69.
03/01/72	20.	51.	N	56.
05/27/73	20.	52.	NW	57.
07/24/74	20.	55.	N	60.
11/20/75	20.	56.	NW	61.
02/21/76	20.	63.	N	69.
02/23/77	20.	49.	NW	54.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	59.72	.93	.94
3.0	62.31	1.14	1.19
4.0	63.97	1.31	1.40
5.0	65.20	1.43	1.58
6.0	66.18	1.54	1.72
7.0	66.99	1.63	1.84
8.0	67.69	1.71	1.95
9.0	68.29	1.78	2.05
10.0	68.83	1.84	2.13
20.0	72.32	2.25	2.69
30.0	74.32	2.49	3.02
35.0	75.08	2.58	3.15
40.0	75.73	2.66	3.26
50.0	76.83	2.80	3.44
60.0	77.72	2.91	3.59
70.0	78.47	3.00	3.71
80.0	79.12	3.08	3.82
90.0	79.69	3.15	3.92
100.0	80.20	3.22	4.00
200.0	83.57	3.64	4.57
300.0	85.54	3.88	4.91
400.0	86.93	4.06	5.14
500.0	88.01	4.19	5.33
600.0	88.89	4.30	5.48
700.0	89.64	4.40	5.60
800.0	90.29	4.48	5.71
900.0	90.86	4.55	5.81
1000.0	91.37	4.62	5.90
2000.0	94.72	5.04	6.47
3000.0	96.68	5.29	6.81
4000.0	98.08	5.47	7.05
5000.0	99.16	5.60	7.23
6000.0	100.04	5.71	7.38
7000.0	100.79	5.81	7.51
8000.0	101.43	5.89	7.62
9000.0	102.00	5.96	7.72
10000.0	102.51	6.03	7.81
50000.0	110.30	7.02	9.14
100000.0	113.65	7.45	9.72
500000.0	121.45	8.44	11.06
1000000.0	124.80	8.87	11.63

TOPEKA, KANSAS (1950-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 28.00
THE SAMPLE MEAN = 54.50
THE SAMPLE STANDARD DEVIATION = 8.19
THE SAMPLE MINIMUM = 41.91
THE SAMPLE MAXIMUM = 78.81

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M .ABOVE GROUND (CORRECTED SPEED)
03/26/50	58.	66.	SW	61.
12/03/51	58.	61.	S	56.
03/12/52	58.	61.	S	56.
03/21/53	58.	61.	SW	56.
10/11/54	72.	63.	NE	56.
06/04/55	72.	57.	NE	51.
07/11/56	72.	63.	NE	56.
04/19/57	72.	63.	SE	56.
07/11/58	72.	81.	N	72.
03/20/59	72.	63.	N	56.
11/27/60	72.	47.	S	42.
05/05/61	72.	62.	SE	55.
05/28/62	72.	59.	SW	53.
05/15/63	72.	72.	N	64.
04/20/64	72.	57.	SW	51.
04/11/65	20.	45.	SW	49.
06/08/66	20.	72.	SW	79.
05/27/67	20.	49.	S	54.
07/23/68	20.	60.	NW	66.
11/13/69	20.	43.	N	47.
06/11/70	20.	42.	S	46.
03/18/71	20.	42.	NW	46.
04/30/72	20.	51.	SW	56.
07/02/73	20.	43.	NE	47.
08/17/74	20.	45.	NE	49.
04/18/75	20.	42.	N	46.
04/15/76	20.	49.	S	54.
04/04/77	20.	43.	NW	47.



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EXTREME VALUE TYPE I (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =    .15618669+01)                THE SAMPLE SIZE N =      28
PROBABILITY PLOT CORRELATION COEFFICIENT =    .97767     ESTIMATED INTERCEPT =    .50805030+02   ESTIMATED SLOPE =    .66934754+01
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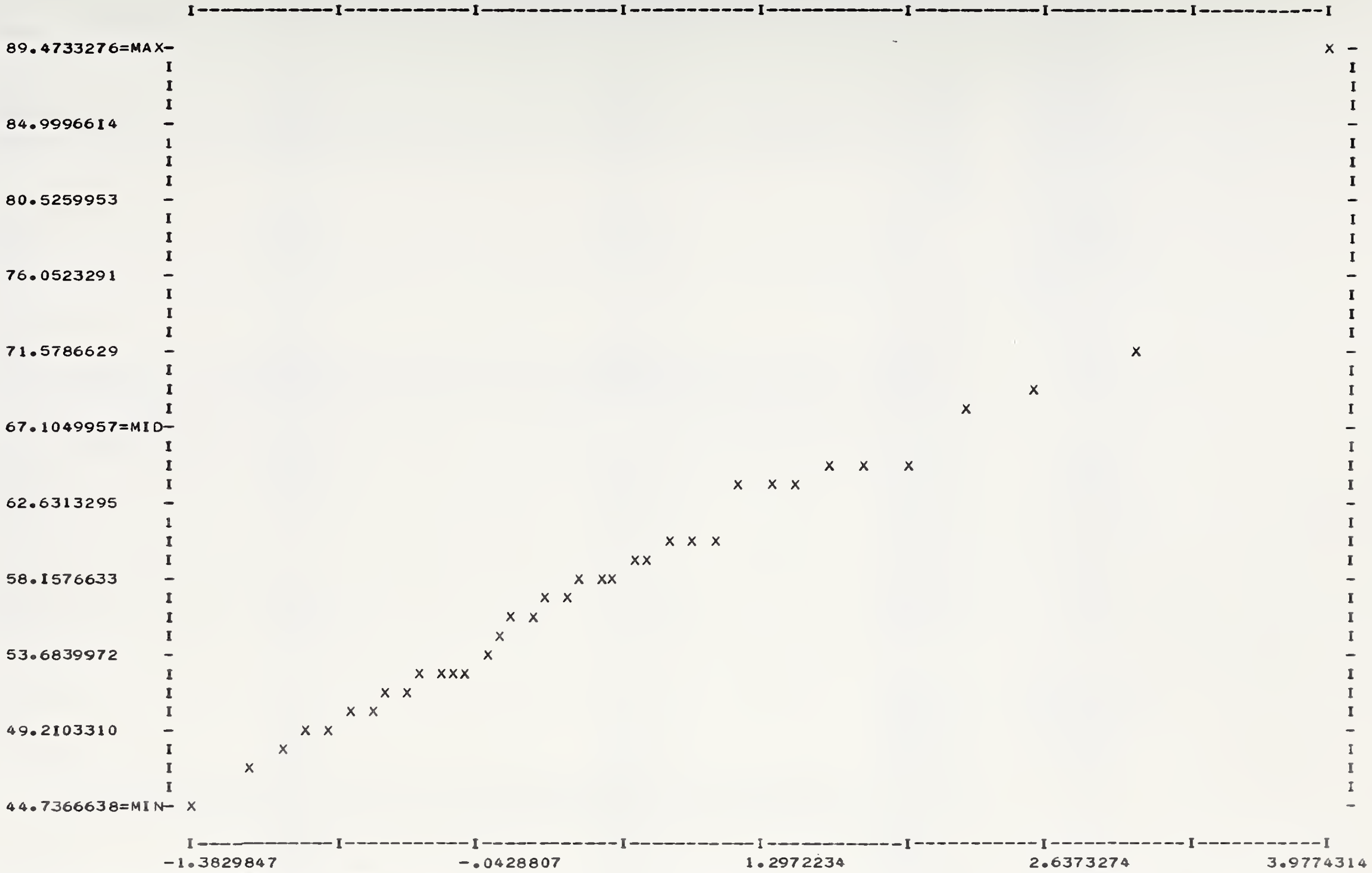
RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 7.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	52.72	53.26	1.42	1.42
3.0	56.09	56.85	1.74	1.80
4.0	58.39	59.14	1.98	2.13
5.0	60.16	60.84	2.17	2.39
6.0	61.61	62.20	2.34	2.61
7.0	62.86	63.32	2.47	2.80
8.0	63.94	64.28	2.59	2.96
9.0	64.91	65.12	2.70	3.10
10.0	65.79	65.87	2.79	3.23
20.0	71.78	70.69	3.41	4.08
28.0	74.87	72.99	3.72	4.50
30.0	75.52	73.46	3.78	4.58
40.0	78.29	75.41	4.04	4.94
50.0	80.52	76.92	4.24	5.21
60.0	82.39	78.15	4.41	5.44
70.0	84.00	79.19	4.55	5.63
80.0	85.43	80.09	4.67	5.80
90.0	86.71	80.89	4.78	5.94
100.0	87.87	81.60	4.88	6.07
200.0	95.96	86.25	5.51	6.94
300.0	101.08	88.97	5.89	7.44
400.0	104.88	90.90	6.15	7.80
500.0	107.95	92.40	6.36	8.08
600.0	110.52	93.62	6.53	8.31
700.0	112.75	94.65	6.67	8.50
800.0	114.73	95.54	6.79	8.67
900.0	116.50	96.33	6.90	8.82
1000.0	118.11	97.04	7.00	8.95
2000.0	129.32	101.68	7.64	9.82
3000.0	136.41	104.39	8.02	10.33
4000.0	141.70	106.32	8.29	10.69
5000.0	145.95	107.81	8.50	10.97
6000.0	149.53	109.03	8.67	11.20
7000.0	152.63	110.07	8.81	11.39
8000.0	155.37	110.96	8.94	11.56
9000.0	157.83	111.75	9.05	11.71
10000.0	160.06	112.45	9.14	11.84
50000.0	198.75	123.23	10.65	13.87
100000.0	218.35	127.87	11.29	14.74
500000.0	272.15	138.65	12.80	16.77
1000000.0	299.40	143.29	13.45	17.65

WICHITA,KANSAS (1941-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 37.00
THE SAMPLE MEAN = 58.12
THE SAMPLE STANDARD DEVIATION = 8.51
THE SAMPLE MINIMUM = 44.74
THE SAMPLE MAXIMUM = 89.47

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
07/10/41	64.	63. NW	57.
11/15/42	64.	72. S	65.
05/05/43	64.	58. S	52.
07/27/44	70.	73. NW	65.
08/13/45	70.	59. NW	53.
03/22/46	70.	56. NW	50.
06/04/47	70.	66. SE	59.
07/14/48	70.	100. N	89.
04/14/49	70.	68. NW	61.
05/20/50	70.	63. SE	56.
03/23/51	70.	50. NW	45.
09/01/52	70.	59. NE	53.
06/21/53	70.	73. NE	65.
01/20/54	21.	47. N	51.
03/10/55	21.	49. N	53.
07/05/56	21.	66. NW	72.
06/11/57	21.	64. NW	69.
12/29/58	21.	52. NE	56.
03/14/59	21.	54. NW	59.
06/20/60	21.	56. N	61.
03/27/61	21.	59. W	64.
07/04/62	21.	59. SE	64.
12/08/63	21.	54. NW	59.
04/27/64	21.	63. W	68.
05/06/65	21.	56. SW	61.
03/05/66	21.	54. NW	59.
06/29/67	21.	51. NW	55.
03/17/68	25.	47. SW	49.
06/25/69	25.	50. SW	52.
02/18/70	25.	45. N	47.
03/18/71	25.	57. NW	60.
07/01/72	25.	61. NW	64.
07/24/73	25.	47. N	49.
08/17/74	25.	46. N	48.
03/23/75	25.	49. NW	51.
02/21/76	25.	48. N	50.
03/10/77	25.	54. SE	57.



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EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =     .15618669+01)                THE SAMPLE SIZE N =       37
PROBABILITY PLOT CORRELATION COEFFICIENT =    .97908     ESTIMATED INTERCEPT =    .54278120+02   ESTIMATED SLOPE =    .68884488+01
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 8.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	56.31	56.80	1.28	1.29
3.0	59.78	60.50	1.57	1.63
4.0	62.13	62.86	1.79	1.93
5.0	63.94	64.61	1.97	2.16
6.0	65.41	66.00	2.11	2.36
7.0	66.67	67.16	2.24	2.53
8.0	67.76	68.15	2.34	2.68
9.0	68.74	69.01	2.44	2.81
10.0	69.61	69.78	2.52	2.92
20.0	75.59	74.74	3.09	3.69
30.0	79.27	77.59	3.42	4.15
37.0	81.24	79.06	3.59	4.38
40.0	81.99	79.60	3.66	4.47
50.0	84.16	81.16	3.84	4.72
60.0	85.97	82.42	3.99	4.92
70.0	87.53	83.49	4.12	5.09
80.0	88.91	84.42	4.23	5.24
90.0	90.15	85.24	4.33	5.38
100.0	91.27	85.97	4.41	5.49
200.0	98.99	90.76	4.99	6.28
300.0	103.83	93.56	5.33	6.73
400.0	107.41	95.54	5.57	7.06
500.0	110.27	97.08	5.75	7.31
600.0	112.67	98.34	5.91	7.52
700.0	114.75	99.40	6.04	7.69
800.0	116.58	100.32	6.15	7.84
900.0	118.21	101.13	6.25	7.98
1000.0	119.70	101.86	6.33	8.10
2000.0	129.98	106.63	6.92	8.88
3000.0	136.41	109.43	7.26	9.34
4000.0	141.18	111.41	7.50	9.67
5000.0	145.00	112.95	7.69	9.92
6000.0	148.20	114.20	7.84	10.13
7000.0	150.96	115.27	7.97	10.31
8000.0	153.40	116.19	8.08	10.46
9000.0	155.58	117.00	8.18	10.59
10000.0	157.56	117.72	8.27	10.71
50000.0	191.30	128.81	9.63	12.54
100000.0	208.05	133.59	10.22	13.34
500000.0	253.08	144.68	11.58	15.17
1000000.0	275.42	149.46	12.17	15.97

LOUISVILLE,KENTUCKY (1946-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 32.00
THE SAMPLE MEAN = 49.34
THE SAMPLE STANDARD DEVIATION = 6.67
THE SAMPLE MINIMUM = 38.69
THE SAMPLE MAXIMUM = 65.68

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
03/08/46	56.	43. SW	40.
05/17/47	56.	42. SW	39.
03/19/48	58.	54. SW	50.
12/12/49	58.	58. SE	53.
03/28/50	58.	54. SW	50.
05/22/51	71.	57. SW	51.
11/25/52	71.	60. SE	54.
12/04/53	71.	61. SW	54.
09/19/54	71.	57. NW	51.
11/16/55	71.	56. S	50.
02/25/56	71.	59. W	53.
06/11/57	71.	58. W	52.
04/05/58	71.	56. SE	50.
05/13/59	71.	44. W	39.
02/10/60	71.	47. S	42.
04/25/61	20.	43. W	47.
04/30/62	20.	42. N	46.
06/10/63	20.	43. N	47.
11/28/64	20.	47. S	51.
11/26/65	20.	38. W	42.
07/06/66	20.	60. NW	66.
02/15/67	20.	57. NW	62.
11/28/68	20.	50. SW	55.
06/22/69	20.	40. NW	44.
04/02/70	20.	38. SW	42.
07/13/71	20.	55. W	60.
01/24/72	20.	45. SW	49.
12/26/73	20.	45. SW	49.
04/03/74	20.	54. SW	59.
01/25/75	20.	42. SW	46.
01/13/76	20.	41. W	45.
02/23/77	20.	39. S	43.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	48.31	1.08	1.08
3.0	51.25	1.32	1.37
4.0	53.13	1.51	1.62
5.0	54.52	1.66	1.82
6.0	55.63	1.78	1.99
7.0	56.55	1.88	2.13
8.0	57.33	1.97	2.25
9.0	58.02	2.05	2.36
10.0	58.63	2.12	2.46
20.0	62.58	2.60	3.11
30.0	64.84	2.88	3.49
32.0	65.20	2.92	3.55
40.0	66.44	3.08	3.76
50.0	67.68	3.23	3.97
60.0	68.69	3.36	4.14
70.0	69.54	3.47	4.29
80.0	70.28	3.56	4.41
90.0	70.93	3.64	4.53
100.0	71.51	3.72	4.63
200.0	75.32	4.20	5.28
300.0	77.54	4.48	5.67
400.0	79.12	4.69	5.94
500.0	80.35	4.84	6.15
600.0	81.35	4.97	6.33
700.0	82.19	5.08	6.48
800.0	82.92	5.18	6.60
900.0	83.57	5.26	6.71
1000.0	84.15	5.33	6.82
2000.0	87.95	5.82	7.48
3000.0	90.17	6.11	7.87
4000.0	91.75	6.31	8.14
5000.0	92.97	6.47	8.35
6000.0	93.97	6.60	8.53
7000.0	94.81	6.71	8.68
8000.0	95.54	6.81	8.80
9000.0	96.19	6.89	8.92
10000.0	96.77	6.97	9.02
50000.0	105.59	8.11	10.56
100000.0	109.38	8.60	11.23
500000.0	118.21	9.75	12.78
1000000.0	122.01	10.25	13.44

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SHREVEPORT.LOUISIANA (1942-1952)

    THE SAMPLE NUMBER OF OBSERVATIONS =      11.00
    THE SAMPLE MEAN                   =      44.59
    THE SAMPLE STANDARD DEVIATION     =       5.40
    THE SAMPLE MINIMUM                =      38.01
    THE SAMPLE MAXIMUM                =      53.39

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

01/30/42      64.               44.  W                      40.
11/02/43      64.               42.  W                      38.
04/22/44      64.               56. SW                      51.
06/02/45      64.               47. NE                      43.
05/18/46      64.               47. NW                      43.
09/07/47      64.               52.  E                      47.
06/06/48      64.               49.  N                      44.
03/21/49      64.               57.  S                      52.
03/26/50      64.               42.  S                      38.
09/04/51      64.               59.  E                      53.
05/23/52      64.               47. NW                      43.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	43.84	1.49	1.50
3.0	46.34	1.83	1.90
4.0	47.94	2.08	2.24
5.0	49.13	2.29	2.52
6.0	50.07	2.46	2.75
7.0	50.85	2.60	2.94
8.0	51.52	2.73	3.11
9.0	52.11	2.84	3.27
10.0	52.63	2.94	3.40
11.0	53.10	3.03	3.52
20.0	55.99	3.59	4.30
30.0	57.92	3.98	4.82
40.0	59.28	4.25	5.20
50.0	60.34	4.47	5.49
60.0	61.19	4.64	5.72
70.0	61.92	4.79	5.93
80.0	62.55	4.92	6.10
90.0	63.10	5.03	6.25
100.0	63.59	5.13	6.39
200.0	66.84	5.80	7.30
300.0	68.74	6.20	7.83
400.0	70.08	6.48	8.21
500.0	71.12	6.69	8.50
600.0	71.97	6.87	8.74
700.0	72.69	7.02	8.95
800.0	73.32	7.15	9.12
900.0	73.87	7.27	9.28
1000.0	74.36	7.37	9.42
2000.0	77.60	8.05	10.33
3000.0	79.49	8.44	10.87
4000.0	80.83	8.73	11.25
5000.0	81.87	8.94	11.54
6000.0	82.72	9.12	11.78
7000.0	83.44	9.27	11.99
8000.0	84.07	9.41	12.17
9000.0	84.62	9.52	12.32
10000.0	85.11	9.62	12.46
50000.0	92.62	11.21	14.59
100000.0	95.85	11.89	15.51
500000.0	103.37	13.48	17.65
1000000.0	106.61	14.16	18.57

PORTLAND,MAINE (1941-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 37.00
THE SAMPLE MEAN = 48.50
THE SAMPLE STANDARD DEVIATION = 8.67
THE SAMPLE MINIMUM = 38.79
THE SAMPLE MAXIMUM = 72.77

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
07/25/41	61.	44.	W	40.
12/02/42	61.	56.	SE	51.
01/20/43	61.	48.	W	44.
02/15/44	43.	58.	W	56.
11/30/45	43.	76.	NW	73.
04/18/46	43.	57.	NW	55.
03/03/47	43.	76.	NE	73.
12/31/48	55.	44.	E	41.
04/19/49	55.	53.	E	49.
11/26/50	55.	66.	E	61.
02/07/51	55.	54.	S	50.
02/18/52	55.	58.	N	54.
11/25/53	55.	50.	SE	46.
08/31/54	55.	69.	E	64.
03/17/55	55.	52.	SE	48.
01/08/56	55.	44.	NE	41.
12/26/57	55.	62.	SE	57.
04/02/58	55.	45.	N	42.
12/07/59	55.	46.	S	42.
09/12/60	55.	62.	SE	57.
03/09/61	55.	42.	E	39.
12/06/62	55.	45.	E	42.
04/20/63	55.	49.	W	45.
02/03/64	55.	43.	NW	40.
02/25/65	20.	42.	SE	46.
01/30/66	20.	40.	NE	44.
02/16/67	20.	41.	W	45.
02/17/68	20.	40.	W	44.
06/20/69	20.	45.	SW	49.
03/27/70	20.	38.	NW	42.
01/30/71	20.	38.	W	42.
02/04/72	20.	42.	SE	46.
12/09/73	20.	38.	SE	42.
01/31/74	20.	43.	NW	47.
04/20/75	20.	41.	W	45.
12/11/76	20.	51.	NW	56.
02/25/77	20.	38.	E	42.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 7.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	46.59	47.17	1.31	1.31
3.0	50.10	50.92	1.60	1.66
4.0	52.49	53.33	1.82	1.96
5.0	54.34	55.11	2.00	2.20
6.0	55.85	56.53	2.15	2.41
7.0	57.15	57.70	2.28	2.58
8.0	58.28	58.71	2.39	2.73
9.0	59.29	59.59	2.48	2.86
10.0	60.20	60.37	2.57	2.98
20.0	66.45	65.41	3.14	3.76
30.0	70.34	68.32	3.48	4.22
37.0	72.44	69.81	3.66	4.46
40.0	73.23	70.36	3.72	4.55
50.0	75.55	71.94	3.91	4.80
60.0	77.49	73.23	4.06	5.01
70.0	79.17	74.32	4.19	5.19
80.0	80.66	75.26	4.31	5.34
90.0	81.99	76.09	4.41	5.48
100.0	83.20	76.84	4.49	5.60
200.0	91.63	81.71	5.08	6.39
300.0	96.96	84.56	5.43	6.86
400.0	100.93	86.58	5.67	7.19
500.0	104.12	88.14	5.86	7.44
600.0	106.80	89.42	6.02	7.65
700.0	109.12	90.50	6.15	7.83
800.0	111.18	91.44	6.26	7.99
900.0	113.02	92.27	6.36	8.12
1000.0	114.70	93.00	6.45	8.24
2000.0	126.38	97.86	7.04	9.04
3000.0	133.77	100.71	7.39	9.51
4000.0	139.27	102.72	7.64	9.85
5000.0	143.70	104.29	7.83	10.11
6000.0	147.43	105.56	7.99	10.32
7000.0	150.66	106.65	8.12	10.49
8000.0	153.51	107.58	8.23	10.65
9000.0	156.07	108.41	8.33	10.79
10000.0	158.40	109.15	8.43	10.91
50000.0	198.70	120.42	9.81	12.78
100000.0	219.11	125.28	10.41	13.58
500000.0	275.16	136.57	11.80	15.45
1000000.0	303.54	141.43	12.40	16.26

BALTIMORE, MARYLAND (1949-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 29.00
THE SAMPLE MEAN = 55.87
THE SAMPLE STANDARD DEVIATION = 6.87
THE SAMPLE MINIMUM = 41.60
THE SAMPLE MAXIMUM = 71.15

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
03/12/49	73.	66.	W	59.
11/25/50	133.	80.	N	67.
03/14/51	133.	72.	E	60.
03/11/52	133.	80.	SE	67.
12/31/53	133.	53.	W	44.
10/15/54	133.	73.	SE	61.
05/29/55	133.	65.	SW	55.
02/25/56	133.	68.	W	57.
10/06/57	133.	65.	NE	55.
01/25/58	133.	63.	NE	53.
12/07/59	133.	56.	W	47.
02/19/60	20.	49.	NW	54.
05/09/61	20.	65.	SW	71.
07/21/62	20.	57.	NW	62.
04/23/63	20.	56.	NW	61.
03/10/64	20.	57.	NW	62.
02/25/65	20.	50.	SW	55.
01/30/66	20.	47.	W	51.
02/16/67	20.	49.	W	54.
02/17/68	20.	47.	NW	51.
07/12/69	20.	49.	NW	54.
04/02/70	20.	56.	NW	61.
01/26/71	20.	54.	NW	59.
01/25/72	20.	38.	SW	42.
03/17/73	20.	46.	W	50.
12/01/74	20.	43.	E	47.
04/03/75	20.	50.	W	55.
03/13/76	20.	50.	NW	55.
03/31/77	20.	46.	W	50.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	54.82	1.17	1.17
3.0	57.83	1.43	1.49
4.0	59.76	1.63	1.76
5.0	61.19	1.79	1.97
6.0	62.32	1.93	2.15
7.0	63.26	2.04	2.31
8.0	64.07	2.14	2.44
9.0	64.77	2.22	2.56
10.0	65.40	2.30	2.67
20.0	69.44	2.82	3.37
29.0	71.57	3.09	3.75
30.0	71.76	3.12	3.78
40.0	73.40	3.33	4.07
50.0	74.67	3.50	4.30
60.0	75.70	3.64	4.49
70.0	76.57	3.75	4.64
80.0	77.33	3.86	4.78
90.0	77.99	3.94	4.90
100.0	78.59	4.02	5.01
200.0	82.49	4.55	5.72
300.0	84.77	4.86	6.14
400.0	86.39	5.08	6.43
500.0	87.65	5.25	6.67
600.0	88.67	5.39	6.85
700.0	89.54	5.50	7.01
800.0	90.29	5.61	7.15
900.0	90.95	5.70	7.27
1000.0	91.54	5.78	7.38
2000.0	95.43	6.31	8.10
3000.0	97.71	6.62	8.52
4000.0	99.32	6.84	8.82
5000.0	100.58	7.01	9.05
6000.0	101.60	7.15	9.24
7000.0	102.47	7.27	9.40
8000.0	103.22	7.37	9.53
9000.0	103.88	7.46	9.66
10000.0	104.47	7.54	9.77
50000.0	113.50	8.78	11.44
100000.0	117.40	9.32	12.16
500000.0	126.44	10.56	13.83
1000000.0	130.33	11.10	14.56

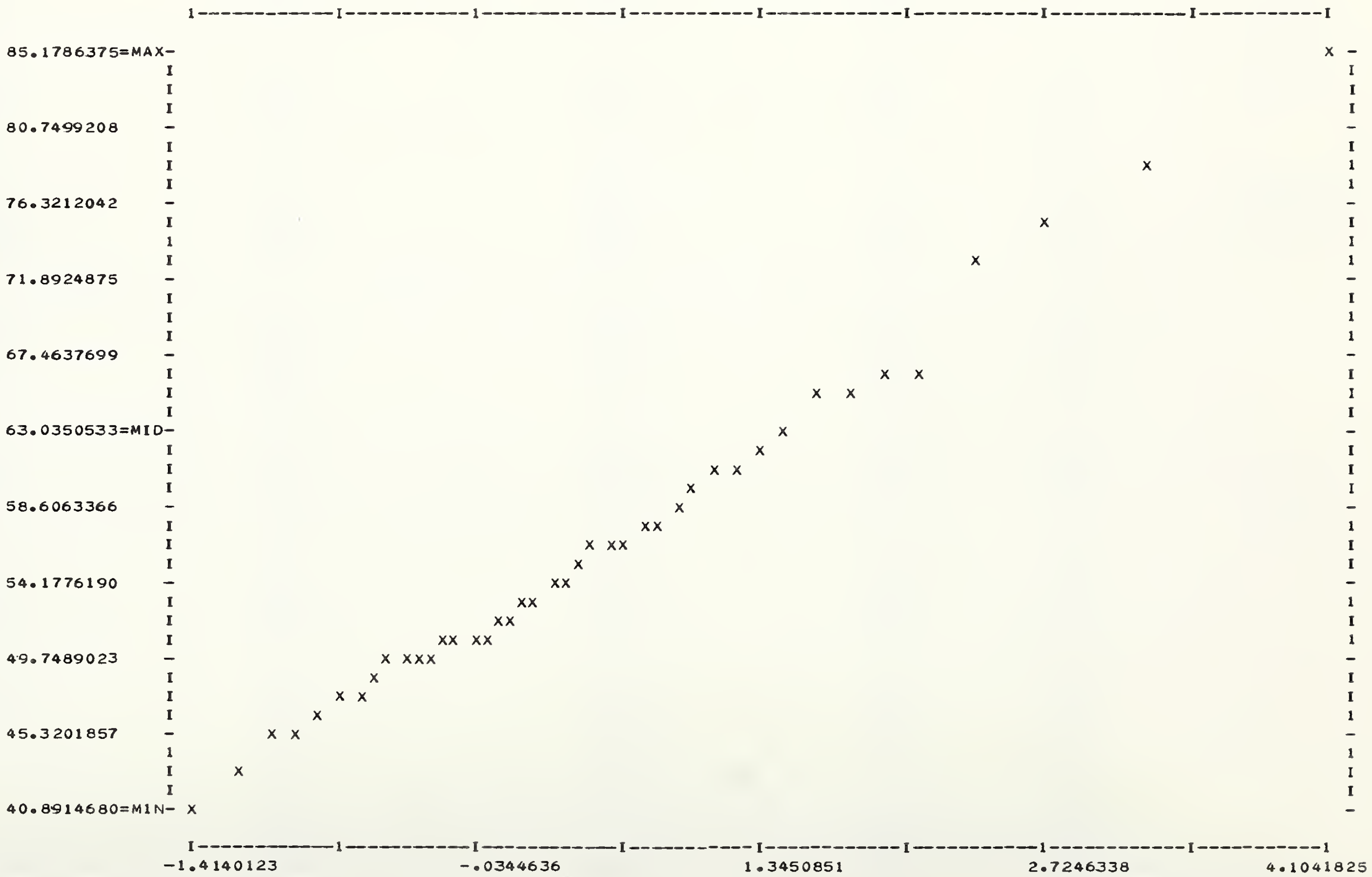
BOSTON, MASS. (1936-1977) CAUTION-- SEE APPENDIX 1 AND SECT. 2.1

THE SAMPLE NUMBER OF OBSERVATIONS = 42.00
THE SAMPLE MEAN = 56.27
THE SAMPLE STANDARD DEVIATION = 9.70
THE SAMPLE MINIMUM = 40.89
THE SAMPLE MAXIMUM = 85.18

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
10/17/36	50.	53. SE	50.
10/20/37	62.	60. S	55.
09/21/38	62.	87. S	79.
11/05/39	62.	62. NE	56.
02/14/40	62.	58. NE	53.
02/07/41	62.	45. E	41.
12/02/42	62.	56. SE	51.
12/11/43	62.	56. NW	51.
09/14/44	62.	72. NE	65.
11/29/45	62.	68. NE	62.
02/20/46	62.	50. E	45.
03/03/47	62.	73. E	66.
10/25/48	62.	52. NE	47.
08/29/49	62.	50. SW	45.
11/26/50	62.	80. SE	73.
11/03/51	62.	56. SW	51.
02/18/52	34.	57. N	57.
11/07/53	34.	67. NE	67.
08/31/54	75.	96. SE	85.
01/07/55	75.	64. NW	57.
02/25/56	75.	68. SW	60.
12/26/57	33.	63. S	63.
08/08/58	33.	75. N	75.
03/06/59	32.	47. SW	47.
09/12/60	32.	57. S	57.
02/04/61	32.	49. NE	49.
12/30/62	32.	49. NW	49.
04/05/63	32.	52. NW	52.
07/01/64	22.	45. N	48.
11/04/65	22.	43. NW	46.
12/24/66	22.	47. NE	51.
02/16/67	22.	50. W	54.
11/12/68	22.	54. NE	58.
01/01/69	22.	51. W	55.
02/03/70	22.	57. S	61.
03/04/71	22.	55. SW	59.
11/08/72	22.	48. NE	52.
09/06/73	22.	49. SW	53.

01/31/74	22.	61. NW	66.
01/29/75	22.	40. NW	43.
12/10/76	22.	46. SW	49.
03/22/77	22.	56. NE	60.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 16.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	54.44	54.73	1.37	1.37
3.0	58.58	58.99	1.68	1.75
4.0	61.30	61.72	1.92	2.06
5.0	63.36	63.74	2.10	2.31
6.0	65.01	65.34	2.26	2.53
7.0	66.40	66.68	2.39	2.71
8.0	67.61	67.82	2.51	2.86
9.0	68.67	68.81	2.61	3.00
10.0	69.62	69.70	2.70	3.13
20.0	75.90	75.42	3.30	3.95
30.0	79.65	78.71	3.66	4.43
40.0	82.35	81.03	3.91	4.78
42.0	82.81	81.42	3.95	4.83
50.0	84.47	82.82	4.11	5.04
60.0	86.23	84.28	4.27	5.26
70.0	87.72	85.52	4.40	5.45
80.0	89.03	86.58	4.52	5.61
90.0	90.19	87.53	4.63	5.75
100.0	91.23	88.37	4.72	5.87
200.0	98.26	93.89	5.33	6.71
300.0	102.52	97.12	5.70	7.20
400.0	105.60	99.41	5.95	7.55
500.0	108.02	101.18	6.15	7.82
600.0	110.03	102.63	6.32	8.04
700.0	111.75	103.86	6.45	8.22
800.0	113.25	104.92	6.57	8.39
900.0	114.58	105.86	6.68	8.53
1000.0	115.78	106.69	6.77	8.66
2000.0	123.88	112.20	7.40	9.50
3000.0	128.78	115.42	7.76	9.99
4000.0	132.33	117.71	8.02	10.34
5000.0	135.13	119.48	8.22	10.61
6000.0	137.45	120.93	8.38	10.83
7000.0	139.43	122.16	8.52	11.02
8000.0	141.16	123.22	8.64	11.18
9000.0	142.69	124.15	8.75	11.32
10000.0	144.08	124.99	8.85	11.45
50000.0	166.42	137.78	10.30	13.41
100000.0	176.76	143.28	10.93	14.26
500000.0	202.58	156.08	12.39	16.22
1000000.0	214.52	161.59	13.01	17.07



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EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =    .15618669+01)          THE SAMPLE SIZE N =     42
PROBABILITY PLOT CORRELATION COEFFICIENT =   .99598     ESTIMATED INTERCEPT =    .51822702+02   ESTIMATED SLOPE =    .79440835+01
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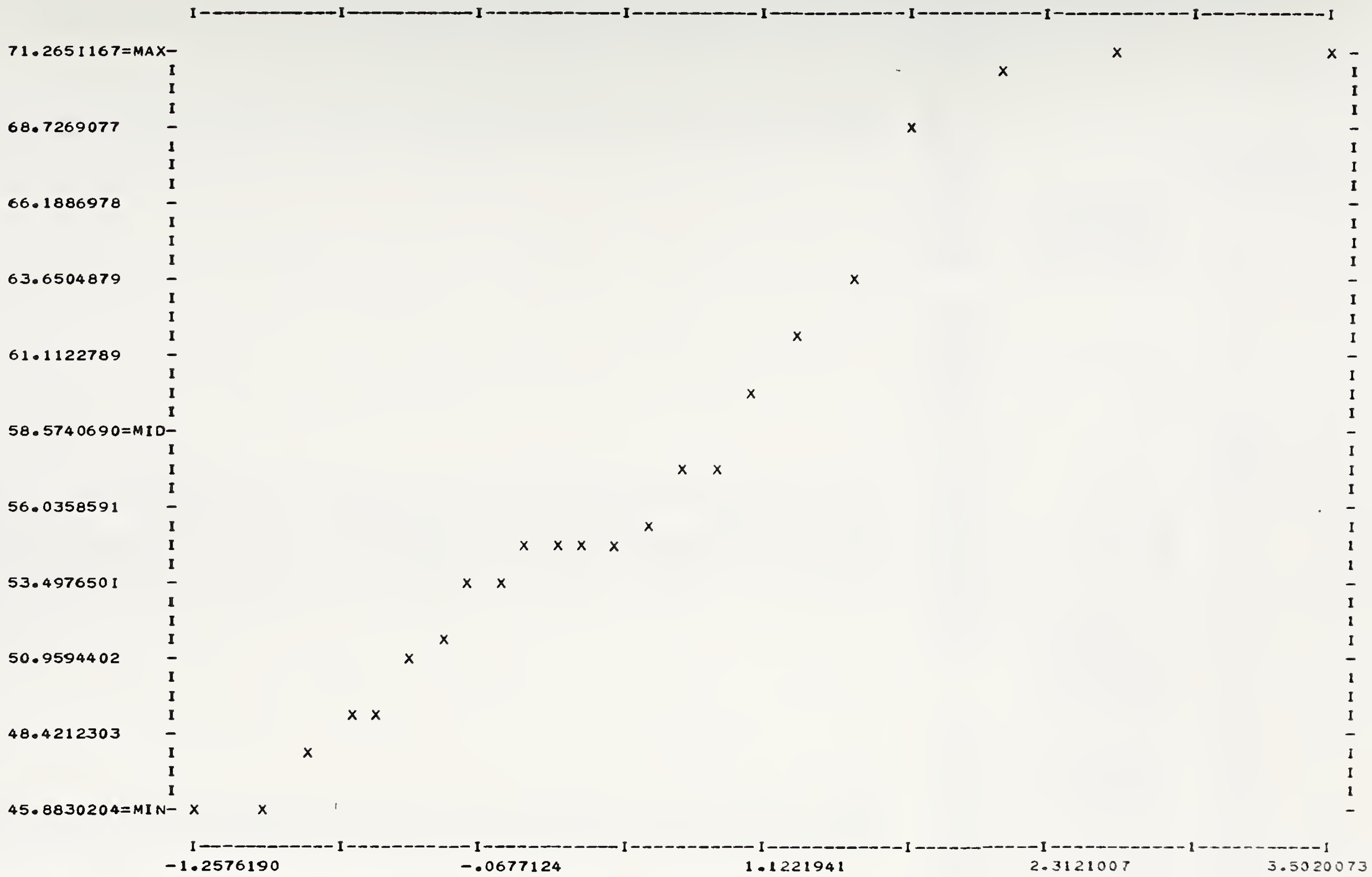
NANTUCKET, MASS. (1947-1969) CAUTION -- SEE APPENDIX 1 AND SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 23.00
THE SAMPLE MEAN = 56.67
THE SAMPLE STANDARD DEVIATION = 7.95
THE SAMPLE MINIMUM = 45.88
THE SAMPLE MAXIMUM = 71.27

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
11/12/47	36.	70. NW	69.
01/02/48	36.	56. E	55.
02/28/49	36.	54. E	53.
09/11/50	36.	72. NE	71.
02/04/51	36.	52. NE	51.
02/27/52	36.	61. NW	60.
11/07/53	38.	56. NE	55.
09/11/54	38.	73. SE	71.
03/27/55	38.	53. SW	52.
03/17/56	38.	73. N	71.
12/05/57	38.	56. N	55.
01/08/58	38.	59. NW	58.
03/12/59	38.	50. SE	49.
03/04/60	38.	59. N	58.
02/04/61	38.	56. E	55.
11/15/62	38.	50. NW	49.
10/29/63	38.	65. NW	63.
01/28/64	38.	49. NW	48.
02/25/65	38.	47. E	46.
12/25/66	38.	55. S	54.
04/28/67	38.	63. N	62.
02/08/68	38.	56. NE	55.
01/01/69	38.	47. W	46.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	55.48	1.52	1.52
3.0	58.99	1.86	1.93
4.0	61.23	2.12	2.28
5.0	62.89	2.33	2.56
6.0	64.21	2.50	2.80
7.0	65.30	2.65	3.00
8.0	66.24	2.77	3.17
9.0	67.06	2.89	3.32
10.0	67.79	2.99	3.46
20.0	72.49	3.66	4.37
23.0	73.42	3.79	4.56
30.0	75.19	4.05	4.91
40.0	77.10	4.33	5.29
50.0	78.57	4.55	5.58
60.0	79.78	4.72	5.83
70.0	80.79	4.88	6.03
80.0	81.67	5.01	6.21
90.0	82.44	5.12	6.37
100.0	83.13	5.22	6.51
200.0	87.68	5.91	7.43
300.0	90.33	6.31	7.97
400.0	92.21	6.59	8.36
500.0	93.67	6.81	8.65
600.0	94.86	6.99	8.90
700.0	95.87	7.15	9.11
800.0	96.74	7.28	9.28
900.0	97.51	7.40	9.44
1000.0	98.20	7.50	9.58
2000.0	102.73	8.19	10.52
3000.0	105.38	8.59	11.06
4000.0	107.26	8.88	11.45
5000.0	108.72	9.10	11.75
6000.0	109.91	9.28	11.99
7000.0	110.91	9.44	12.20
8000.0	111.79	9.57	12.38
9000.0	112.55	9.69	12.54
10000.0	113.24	9.79	12.68
50000.0	123.75	11.40	14.85
100000.0	128.28	12.10	15.79
500000.0	138.80	13.71	17.96
1000000.0	143.33	14.41	18.90



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EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =    .15618669+01)            THE SAMPLE SIZE N =       23
PROBABILITY PLOT CORRELATION COEFFICIENT =   .97294     ESTIMATED INTERCEPT =    .53090776+02   ESTIMATED SLOPE =    .55309039+01
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     DETROIT,MICHIGAN (1934-1977). REFER TO SECT. 2.2

          THE SAMPLE NUMBER OF OBSERVATIONS =       44.00
          THE SAMPLE MEAN                   =       48.88
          THE SAMPLE STANDARD DEVIATION     =        6.83
          THE SAMPLE MINIMUM                =       36.00
          THE SAMPLE MAXIMUM                =       67.62

   DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

 11/13/34      77.            52. NW                        46.
 03/17/35      77.            52. SW                        46.
 02/27/36      77.            49.  W                        43.
 06/20/37      77.            45. SW                        40.
 12/27/38      77.            45. SW                        40.
 03/15/39      77.            47. SW                        42.
 11/11/40      77.            56. SW                        50.
 09/25/41      77.            52. SW                        46.
 11/10/42      77.            66.  W                        58.
 03/17/43      77.            68. SW                        60.
 05/26/44      77.            57. NW                        50.
 08/29/45      77.            50. NW                        44.
 04/02/46      77.            47. NW                        42.
 03/25/47      77.            54.  N                        48.
 02/19/48      77.            49. NW                        43.
 01/19/49      77.            57. SW                        50.
 01/10/50      77.            52. NW                        46.
 06/01/51      77.            56. SW                        50.
 11/26/52      82.            65. SW                        57.
 04/10/53      82.            54. SW                        47.
 03/25/54      82.            56. SW                        49.
 07/27/55      82.            57. SW                        50.
 03/11/56      82.            51.  W                        45.
 09/23/57      82.            45.  W                        40.
 02/24/58      82.            47.  W                        41.
 03/15/59      82.            48. SW                        42.
 07/22/60      82.            77. NW                        68.
 03/06/61      82.            41.  W                        36.
 09/13/62      82.            57. NW                        50.
 05/04/63      82.            60. NW                        53.
 06/19/64      82.            56.  W                        49.
 04/12/65      82.            55.  W                        48.
 03/01/66      82.            46.  W                        40.
 02/16/67      20.            52. SW                        57.
 07/09/68      20.            50.  W                        55.
 04/21/69      20.            38.  W                        42.
 07/03/70      20.            48. NW                        53.
 01/26/71      20.            50. NW                        55.
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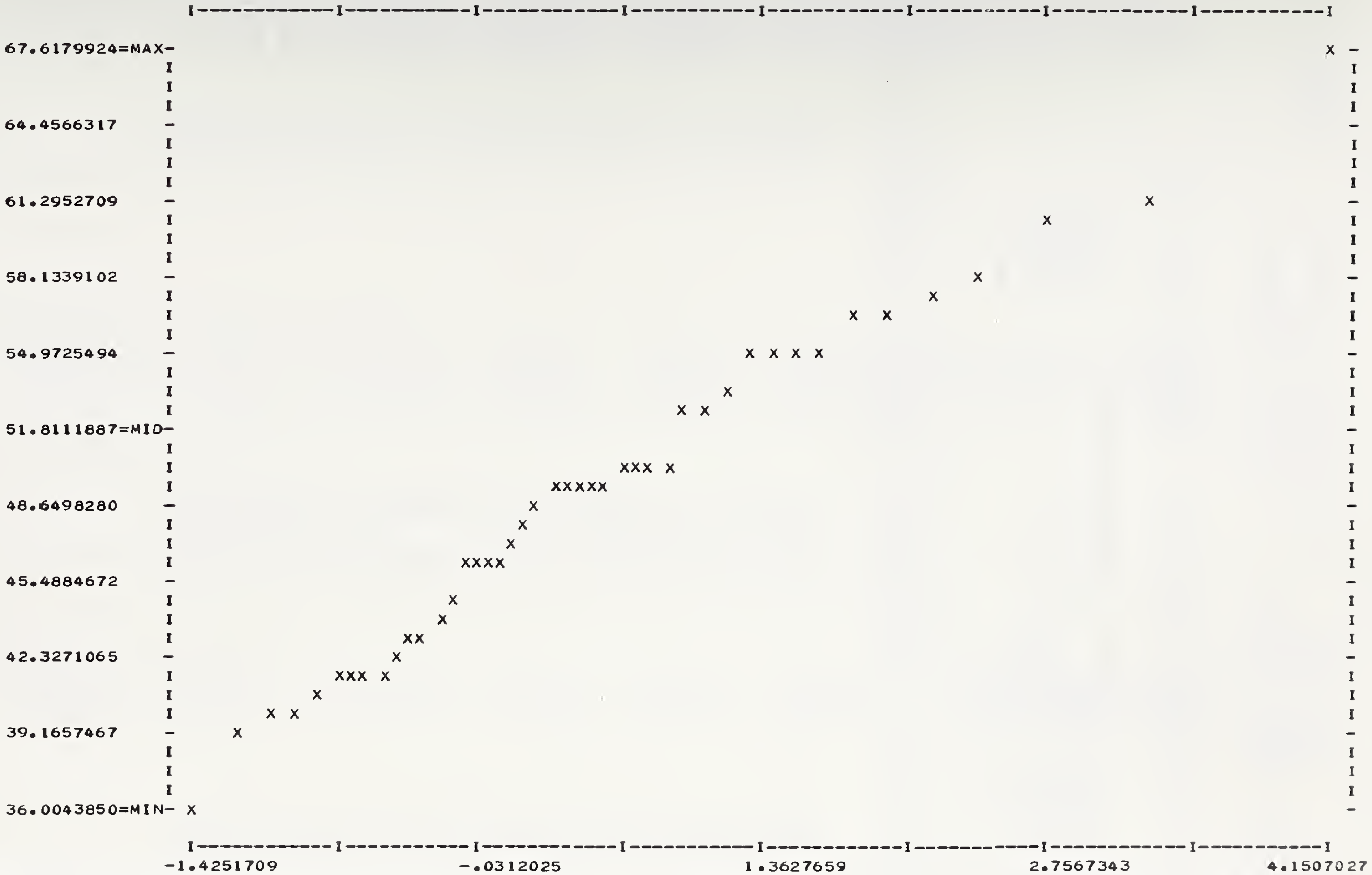
12/06/72	20.	50.	W	55.
04/16/73	20.	45.	SW	49.
01/27/74	20.	50.	SW	55.
03/24/75	20.	52.	SW	57.
03/05/76	20.	49.	SW	54.
07/19/77	20.	56.	W	61.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	47.81	.94	.95
3.0	50.78	1.15	1.20
4.0	52.68	1.32	1.42
5.0	54.09	1.45	1.59
6.0	55.21	1.55	1.74
7.0	56.15	1.64	1.86
8.0	56.94	1.72	1.97
9.0	57.64	1.79	2.06
10.0	58.26	1.86	2.15
20.0	62.25	2.27	2.72
30.0	64.55	2.52	3.05
40.0	66.17	2.69	3.29
44.0	66.70	2.75	3.36
50.0	67.42	2.82	3.47
60.0	68.44	2.93	3.62
70.0	69.30	3.03	3.75
80.0	70.05	3.11	3.86
90.0	70.70	3.18	3.95
100.0	71.29	3.25	4.04
200.0	75.15	3.67	4.62
300.0	77.41	3.92	4.95
400.0	79.00	4.09	5.19
500.0	80.24	4.23	5.38
600.0	81.26	4.34	5.53
700.0	82.11	4.44	5.66
800.0	82.85	4.52	5.77
900.0	83.51	4.59	5.87
1000.0	84.09	4.66	5.95
2000.0	87.94	5.09	6.53
3000.0	90.19	5.34	6.87
4000.0	91.78	5.52	7.11
5000.0	93.02	5.65	7.30
6000.0	94.03	5.77	7.45
7000.0	94.89	5.86	7.58
8000.0	95.63	5.95	7.69
9000.0	96.28	6.02	7.79
10000.0	96.87	6.08	7.88
50000.0	105.80	7.08	9.23
100000.0	109.64	7.52	9.81
500000.0	118.58	8.52	11.16
1000000.0	122.42	8.95	11.74



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EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =    .15618669+01)                 THE SAMPLE SIZE N =      44
PROBABILITY PLOT CORRELATION COEFFICIENT =    .98953     ESTIMATED INTERCEPT =    .45772063+02   ESTIMATED SLOPE =    .55476364+01
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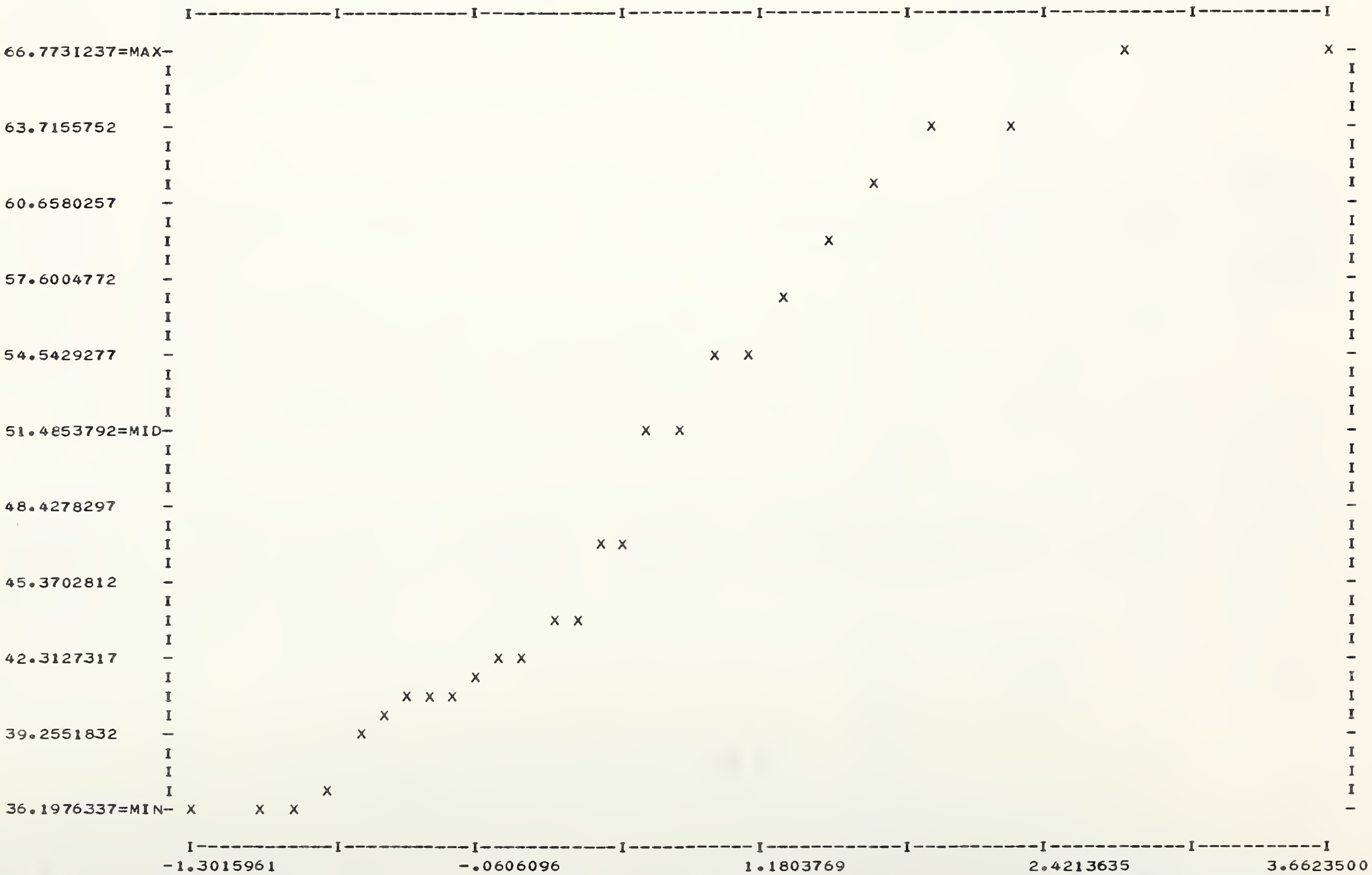
GRAND RAPIDS, MICHIGAN (1951-1977). REFER TO SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 27.00
THE SAMPLE MEAN = 48.33
THE SAMPLE STANDARD DEVIATION = 10.11
THE SAMPLE MINIMUM = 36.20
THE SAMPLE MAXIMUM = 66.77

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
10/30/51	64.	47.	W	43.
11/26/52	64.	65.	SW	59.
02/06/53	64.	46.	SW	42.
03/25/54	64.	57.	SW	52.
11/16/55	64.	44.	W	40.
03/06/56	64.	52.	NW	47.
03/15/57	64.	45.	W	41.
11/29/58	64.	40.	NW	36.
09/26/59	64.	40.	SW	36.
04/11/60	64.	43.	SW	39.
03/27/61	64.	40.	SW	36.
04/30/62	64.	41.	W	37.
04/03/63	64.	45.	SW	41.
06/09/64	20.	58.	W	63.
06/20/65	20.	52.	W	57.
03/18/66	20.	40.	SW	44.
01/16/67	20.	43.	SW	47.
04/08/68	20.	50.	SW	55.
10/07/69	20.	50.	SW	55.
11/22/70	20.	40.	W	44.
02/05/71	20.	58.	SW	63.
01/24/72	20.	56.	SW	61.
04/16/73	20.	37.	S	41.
03/22/74	20.	47.	SW	51.
11/10/75	20.	61.	S	67.
03/20/76	20.	61.	SW	67.
07/01/77	20.	39.	W	43.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	46.81	1.78	1.79
3.0	51.21	2.18	2.27
4.0	54.03	2.49	2.68
5.0	56.11	2.73	3.01
6.0	57.77	2.94	3.28
7.0	59.15	3.11	3.52
8.0	60.33	3.26	3.72
9.0	61.36	3.39	3.90
10.0	62.27	3.51	4.06
20.0	68.18	4.29	5.13
27.0	70.70	4.63	5.60
30.0	71.58	4.75	5.76
40.0	73.98	5.08	6.21
50.0	75.83	5.34	6.55
60.0	77.34	5.54	6.84
70.0	78.61	5.72	7.08
80.0	79.72	5.87	7.29
90.0	80.69	6.01	7.47
100.0	81.56	6.13	7.63
200.0	87.27	6.93	8.72
300.0	90.60	7.40	9.35
400.0	92.97	7.73	9.81
500.0	94.80	7.99	10.16
600.0	96.30	8.21	10.44
700.0	97.56	8.39	10.69
800.0	98.66	8.54	10.90
900.0	99.63	8.68	11.08
1000.0	100.49	8.80	11.25
2000.0	106.18	9.61	12.34
3000.0	109.51	10.08	12.98
4000.0	111.87	10.42	13.43
5000.0	113.71	10.68	13.79
6000.0	115.20	10.90	14.07
7000.0	116.47	11.08	14.32
8000.0	117.56	11.23	14.53
9000.0	118.53	11.37	14.71
10000.0	119.40	11.49	14.88
50000.0	132.60	13.38	17.43
100000.0	138.29	14.20	18.53
500000.0	151.51	16.09	21.08
1000000.0	157.20	16.91	22.18



EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU = .15618669+01) THE SAMPLE SIZE N = 27
PROBABILITY PLOT CORRELATION COEFFICIENT = .96946 ESTIMATED INTERCEPT = .43803484+02 ESTIMATED SLOPE = .82071843+01

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    LANSING,MICHIGAN (1949-1977). SEE SECT. 2.1

         THE SAMPLE NUMBER OF OBSERVATIONS =       29.00
         THE SAMPLE MEAN                   =       52.95
         THE SAMPLE STANDARD DEVIATION     =        6.59
         THE SAMPLE MINIMUM                =       41.89
         THE SAMPLE MAXIMUM                =       67.02

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
         ELEVATION(FT)    AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

04/23/49      52.                 52.  W                      48.
01/18/50      52.                 52. SW                      48.
03/24/51      52.                 52. NW                      48.
11/26/52      52.                 67. SW                      62.
04/09/53      52.                 72. NW                      67.
06/25/54      52.                 51.  W                      47.
03/22/55      52.                 58.  W                      54.
03/11/56      52.                 50. SW                      47.
02/26/57      52.                 45.  W                      42.
04/24/58      52.                 45.  W                      42.
07/30/59      78.                 56. NE                      49.
03/22/60      78.                 56. NW                      49.
03/06/61      78.                 59.  W                      52.
04/30/62      78.                 60.  W                      53.
06/09/63      78.                 63. SE                      56.
11/12/64      20.                 47. SW                      51.
03/18/65      20.                 47. SW                      51.
10/10/66      20.                 45.  W                      49.
02/16/67      20.                 56.  W                      61.
06/23/68      20.                 49. NW                      54.
09/06/69      20.                 54.  W                      59.
12/01/70      20.                 54.  W                      59.
02/27/71      20.                 56. SW                      61.
01/25/72      20.                 43.  W                      47.
01/04/73      20.                 42. SW                      46.
01/27/74      20.                 45. SW                      49.
06/15/75      20.                 54. NW                      59.
03/30/76      20.                 52. SW                      57.
04/02/77      20.                 59. SW                      65.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	51.94	1.12	1.12
3.0	54.84	1.37	1.43
4.0	56.70	1.57	1.69
5.0	58.08	1.72	1.89
6.0	59.17	1.85	2.07
7.0	60.08	1.96	2.21
8.0	60.86	2.05	2.34
9.0	61.54	2.13	2.46
10.0	62.14	2.21	2.56
20.0	66.04	2.70	3.23
29.0	68.10	2.97	3.59
30.0	68.28	2.99	3.63
40.0	69.87	3.20	3.91
50.0	71.09	3.36	4.13
60.0	72.08	3.49	4.31
70.0	72.93	3.60	4.46
80.0	73.65	3.70	4.59
90.0	74.30	3.78	4.70
100.0	74.87	3.86	4.81
200.0	78.64	4.36	5.49
300.0	80.84	4.66	5.89
400.0	82.40	4.87	6.17
500.0	83.61	5.03	6.40
600.0	84.60	5.17	6.58
700.0	85.43	5.28	6.73
800.0	86.16	5.38	6.86
900.0	86.79	5.46	6.98
1000.0	87.36	5.54	7.08
2000.0	91.12	6.05	7.77
3000.0	93.32	6.35	8.17
4000.0	94.87	6.56	8.46
5000.0	96.08	6.73	8.68
6000.0	97.07	6.86	8.86
7000.0	97.91	6.97	9.02
8000.0	98.63	7.07	9.15
9000.0	99.27	7.16	9.27
10000.0	99.84	7.24	9.37
50000.0	108.56	8.43	10.98
100000.0	112.31	8.94	11.67
500000.0	121.03	10.13	13.27
1000000.0	124.79	10.65	13.97

SAULT STE MARIE.MICHIGAN (1941-1977) . SEE SECT. 2.1

THE SAMPLE NUMBER OF OBSERVATIONS = 37.00
THE SAMPLE MEAN = 48.44
THE SAMPLE STANDARD DEVIATION = 7.65
THE SAMPLE MINIMUM . = 35.97
THE SAMPLE MAXIMUM = 67.02

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
10/07/41	43.	50. SW	48.
03/09/42	43.	54. NW	52.
09/07/43	43.	62. SW	59.
03/29/44	52.	60. SE	56.
04/04/45	52.	72. SW	67.
11/22/46	52.	64. NW	60.
11/07/47	52.	46. SE	43.
11/17/48	52.	66. W	61.
12/12/49	33.	52. SW	52.
05/05/50	33.	49. SE	49.
10/31/51	33.	47. W	47.
01/15/52	33.	43. W	43.
11/03/53	33.	40. W	40.
01/30/54	33.	36. W	36.
03/12/55	33.	44. W	44.
03/11/56	33.	45. N	45.
12/23/57	33.	45. W	45.
11/05/58	33.	50. W	50.
12/09/59	33.	53. W	53.
01/08/60	33.	48. W	48.
01/17/61	33.	42. NW	42.
12/29/62	40.	40. W	39.
11/23/63	40.	58. NW	56.
04/14/64	40.	62. SW	60.
01/08/65	40.	59. W	57.
04/28/66	40.	42. SE	41.
01/17/67	20.	35. NW	38.
02/22/68	20.	47. W	51.
12/02/69	20.	38. NW	42.
09/10/70	20.	43. W	47.
12/24/71	20.	39. NW	43.
01/19/72	20.	39. W	43.
10/15/73	20.	38. NW	42.
01/31/74	20.	44. NW	48.
11/10/75	20.	53. NW	58.
12/10/76	20.	45. NW	49.
09/24/77	20.	36. SE	39.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	47.24	1.15	1.16
3.0	50.59	1.41	1.47
4.0	52.74	1.61	1.73
5.0	54.33	1.77	1.95
6.0	55.59	1.90	2.12
7.0	56.64	2.01	2.27
8.0	57.53	2.11	2.41
9.0	58.32	2.19	2.52
10.0	59.02	2.27	2.63
20.0	63.51	2.77	3.32
30.0	66.10	3.07	3.73
37.0	67.43	3.23	3.94
40.0	67.93	3.29	4.01
50.0	69.34	3.45	4.24
60.0	70.49	3.59	4.42
70.0	71.46	3.70	4.58
80.0	72.30	3.80	4.71
90.0	73.04	3.89	4.83
100.0	73.70	3.97	4.94
200.0	78.05	4.48	5.64
300.0	80.59	4.79	6.05
400.0	82.39	5.00	6.34
500.0	83.78	5.17	6.57
600.0	84.92	5.31	6.75
700.0	85.89	5.42	6.91
800.0	86.72	5.52	7.05
900.0	87.46	5.61	7.17
1000.0	88.12	5.69	7.27
2000.0	92.45	6.22	7.98
3000.0	94.98	6.52	8.40
4000.0	96.78	6.74	8.69
5000.0	98.18	6.91	8.92
6000.0	99.32	7.05	9.10
7000.0	100.28	7.16	9.26
8000.0	101.11	7.27	9.40
9000.0	101.85	7.35	9.52
10000.0	102.51	7.43	9.63
50000.0	112.57	8.66	11.27
100000.0	116.90	9.18	11.98
500000.0	126.96	10.41	13.64
1000000.0	131.30	10.94	14.35

DULUTH,MINNESOTA (1950-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 28.00
THE SAMPLE MEAN = 50.88
THE SAMPLE STANDARD DEVIATION = 7.74
THE SAMPLE MINIMUM = 39.92
THE SAMPLE MAXIMUM = 69.63

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
09/21/50	53.	56.	NE	52.
04/22/51	53.	49.	W	45.
07/22/52	53.	72.	W	67.
04/30/53	53.	56.	NE	52.
04/17/54	53.	49.	W	45.
12/03/55	53.	53.	NE	49.
10/13/56	53.	61.	S	57.
05/20/57	53.	61.	NE	57.
04/05/58	53.	75.	NE	70.
05/12/59	53.	61.	W	57.
11/28/60	53.	68.	E	63.
05/14/61	53.	46.	NE	43.
04/27/62	53.	48.	NE	45.
04/16/63	53.	48.	SW	45.
01/23/64	53.	56.	NE	52.
02/28/65	53.	50.	E	46.
03/03/66	53.	57.	NE	53.
04/30/67	53.	63.	E	58.
04/23/68	53.	45.	NW	42.
04/21/69	53.	43.	NW	40.
04/08/70	53.	54.	W	50.
08/09/71	53.	49.	W	45.
01/24/72	53.	57.	NW	53.
10/13/73	53.	43.	W	40.
10/31/74	53.	50.	NE	46.
03/23/75	21.	54.	NE	59.
03/02/76	21.	42.	E	46.
09/09/77	21.	45.	SW	49.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	49.69	1.34	1.34
3.0	53.13	1.64	1.71
4.0	55.34	1.87	2.01
5.0	56.97	2.06	2.26
6.0	58.27	2.21	2.47
7.0	59.35	2.34	2.64
8.0	60.27	2.45	2.80
9.0	61.07	2.55	2.93
10.0	61.79	2.64	3.05
20.0	66.41	3.23	3.86
28.0	68.62	3.51	4.25
30.0	69.07	3.57	4.33
40.0	70.95	3.82	4.67
50.0	72.40	4.01	4.93
60.0	73.58	4.17	5.14
70.0	74.58	4.30	5.32
80.0	75.44	4.42	5.48
90.0	76.20	4.52	5.62
100.0	76.88	4.61	5.74
200.0	81.35	5.21	6.56
300.0	83.96	5.57	7.03
400.0	85.81	5.82	7.37
500.0	87.25	6.01	7.64
600.0	88.42	6.17	7.85
700.0	89.41	6.31	8.04
800.0	90.27	6.42	8.19
900.0	91.03	6.53	8.33
1000.0	91.71	6.62	8.46
2000.0	96.16	7.23	9.28
3000.0	98.77	7.58	9.76
4000.0	100.61	7.84	10.10
5000.0	102.05	8.03	10.37
6000.0	103.22	8.19	10.58
7000.0	104.21	8.33	10.77
8000.0	105.07	8.45	10.93
9000.0	105.82	8.55	11.07
10000.0	106.50	8.64	11.19
50000.0	116.84	10.07	13.11
100000.0	121.29	10.68	13.93
500000.0	131.64	12.10	15.85
1000000.0	136.09	12.72	16.68

MINNEAPOLIS,MINNESOTA (1938-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 40.00
THE SAMPLE MEAN = 49.19
THE SAMPLE STANDARD DEVIATION = 9.06
THE SAMPLE MINIMUM = 38.15
THE SAMPLE MAXIMUM = 81.63

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
05/03/38	61.	50. S	46.
06/07/39	61.	63. NW	57.
11/11/40	75.	43. W	38.
03/16/41	75.	50. NW	44.
05/29/42	75.	45. NW	40.
08/31/43	75.	49. S	43.
06/04/44	75.	59. SW	52.
10/30/45	75.	57. W	51.
12/16/46	75.	52. W	46.
06/28/47	75.	57. SW	51.
07/01/48	75.	45. SE	40.
10/10/49	75.	73. S	65.
05/05/50	75.	52. SW	46.
07/20/51	75.	92. W	82.
06/24/52	75.	52. NW	46.
06/03/53	75.	54. SE	48.
03/12/54	75.	46. E	41.
04/20/55	75.	48. SW	43.
12/11/56	75.	47. NW	42.
07/14/57	75.	49. NW	43.
11/17/58	21.	60. SW	65.
05/05/59	21.	42. SW	46.
04/11/60	21.	42. NW	46.
05/11/61	21.	40. S	43.
07/21/62	21.	47. N	51.
04/03/63	21.	45. SW	49.
05/23/64	21.	61. NW	66.
02/21/65	21.	45. NW	49.
07/10/66	21.	52. NE	56.
08/06/67	21.	62. N	67.
02/16/68	21.	44. NW	48.
04/21/69	21.	42. N	46.
04/29/70	21.	45. W	49.
02/27/71	21.	42. NW	46.
09/06/72	21.	38. SW	41.
04/09/73	21.	42. NE	46.
06/20/74	21.	49. N	53.
07/23/75	21.	50. NW	54.

01/28/76	21.	37.	NW	40.
11/20/77	21.	41.	W	44.

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 RETURN PERIOD    PREDICTED EXTREME WIND     PREDICTED EXTREME WIND    ESTIMATED      ESTIMATED
  (IN YEARS)       BASED ON OPTIMAL               BASED ON             STAN. DEV.     STAN. DEV.
                  EXTREME VALUE TYPE 2.      EXTREME VALUE TYPE 1     SAMPL. ERROR   SAMPL. ERROR
                      DISTRIBUTION                DISTRIBUTION         CRAMER-RAO    METH. OF MOM.
                  (GAMMA =       4.00000)

        2.0              46.82                       47.80                1.31           1.32
        3.0              50.17                       51.68                1.61           1.67
        4.0              52.56                       54.17                1.83           1.97
        5.0              54.47                       56.01                2.01           2.22
        6.0              56.08                       57.48                2.16           2.42

        7.0              57.48                       58.69                2.29           2.59
        8.0              58.72                       59.73                2.40           2.74
        9.0              59.84                       60.64                2.50           2.87
       10.0              60.87                       61.45                2.58           2.99
       20.0              68.25                       66.67                3.16           3.78

       30.0              73.13                       69.67                3.50           4.24
       40.0              76.89                       71.78                3.74           4.57
       40.0              76.89                       71.78                3.74           4.57
       50.0              79.99                       73.42                3.93           4.83
       60.0              82.65                       74.75                4.08           5.04

       70.0              85.00                       75.88                4.21           5.21
       80.0              87.10                       76.85                4.33           5.37
       90.0              89.01                       77.71                4.43           5.50
      100.0              90.77                       78.48                4.52           5.62
      200.0             103.56                       83.52                5.11           6.42

      300.0             112.12                       86.46                5.45           6.89
      400.0             118.74                       88.55                5.70           7.22
      500.0             124.22                       90.17                5.89           7.48
      600.0             128.92                       91.49                6.05           7.69
      700.0             133.06                       92.61                6.18           7.87

      800.0             136.79                       93.58                6.29           8.03
      900.0             140.18                       94.43                6.39           8.16
     1000.0             143.29                       95.19                6.48           8.29
     2000.0             165.97                      100.22                7.08           9.09
     3000.0             181.18                      103.16                7.43           9.56

     4000.0             192.94                      105.24                7.68           9.90
     5000.0             202.67                      106.86                7.87          10.16
     6000.0             211.03                      108.18                8.03          10.37
     7000.0             218.40                      109.30                8.16          10.55
     8000.0             225.02                      110.27                8.28          10.70

     9000.0             231.04                      111.12                8.38          10.84
    10000.0             236.58                      111.88                8.47          10.96
    50000.0             342.15                      123.55                9.86          12.84
   100000.0             402.45                      128.57               10.46          13.65
   500000.0             590.40                      140.24               11.86          15.53

  1000000.0             697.66                      145.27               12.46          16.34
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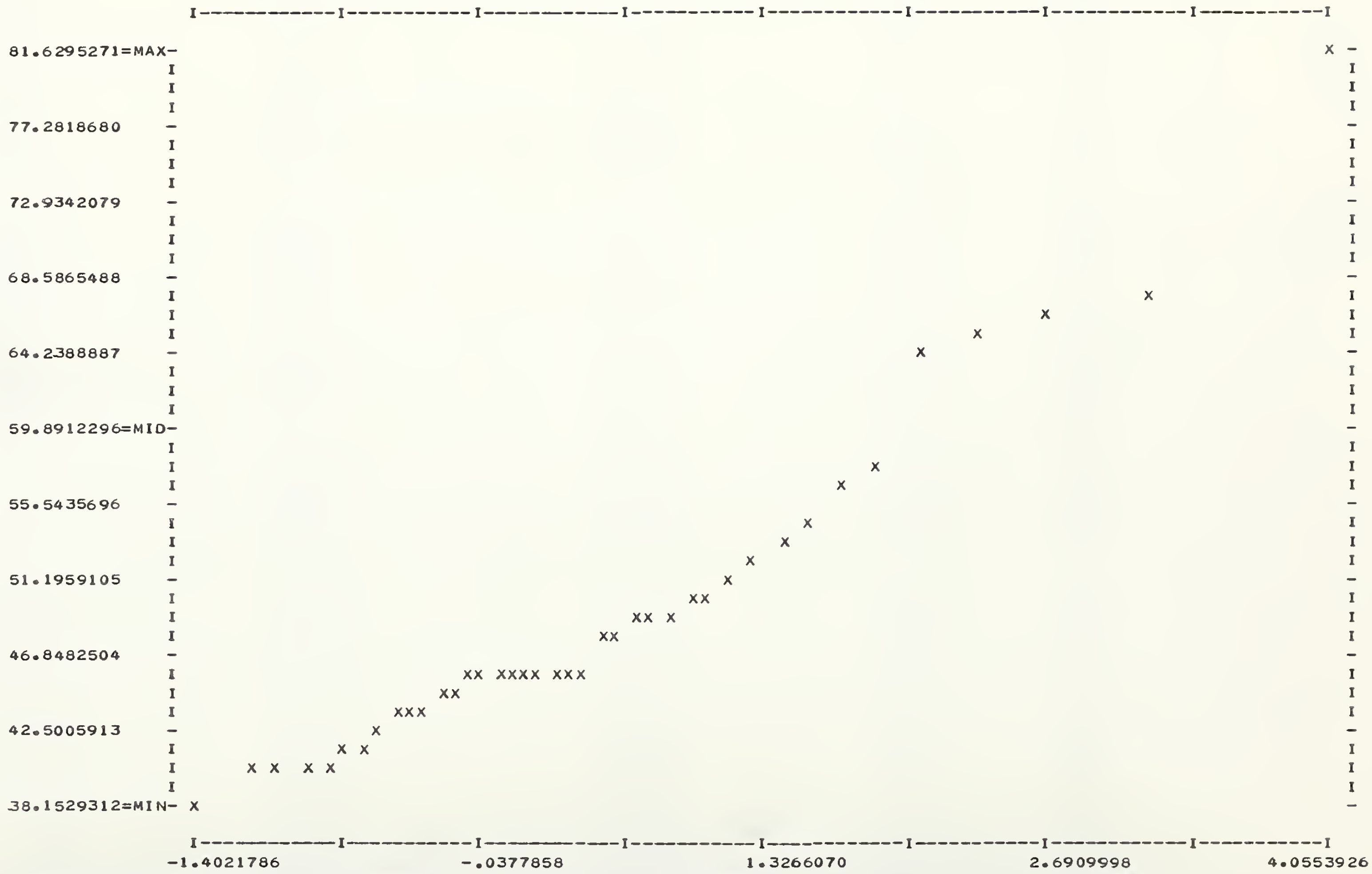

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EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =    .15618669+01)              THE SAMPLE SIZE N =     40
PROBABILITY PLOT CORRELATION COEFFICIENT =   .97068     ESTIMATED INTERCEPT =    .45143178+02   ESTIMATED SLOPE =    .72462175+01
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JACKSON, MISSISSIPPI (1948-1976). SEE SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 29.00
THE SAMPLE MEAN = 45.89
THE SAMPLE STANDARD DEVIATION = 7.13
THE SAMPLE MINIMUM = 36.94
THE SAMPLE MAXIMUM = 64.44

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
08/15/48	46.	51. NW	48.
05/30/49	46.	56. NW	53.
03/27/50	46.	59. NW	56.
12/14/51	46.	59. NW	56.
03/10/52	46.	68. S	64.
04/29/53	46.	49. S	46.
12/05/54	46.	56. NW	53.
03/25/55	46.	56. NW	53.
07/05/56	39.	38. E	37.
07/02/57	39.	54. N	52.
02/27/58	39.	40. W	39.
03/04/59	30.	42. SE	43.
01/29/60	30.	38. NW	39.
12/17/61	30.	40. N	41.
04/30/62	30.	57. NW	58.
06/16/63	30.	37. N	38.
10/04/64	20.	36. N	39.
09/10/65	20.	38. SE	42.
03/03/66	20.	45. NW	49.
05/31/67	20.	40. NW	44.
03/20/68	20.	40. S	44.
06/30/69	20.	40. SE	44.
03/03/70	20.	36. NW	39.
02/21/71	20.	37. SE	41.
03/27/72	20.	41. NW	45.
11/04/73	20.	42. NW	46.
02/21/74	20.	39. S	43.
05/29/75	20.	36. SW	39.
08/01/76	20.	37. NE	41.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 40.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	44.71	44.80	1.21	1.22
3.0	47.83	47.94	1.48	1.54
4.0	49.84	49.96	1.69	1.82
5.0	51.35	51.45	1.86	2.05
6.0	52.55	52.63	2.00	2.23
7.0	53.55	53.62	2.11	2.39
8.0	54.42	54.46	2.22	2.53
9.0	55.17	55.19	2.31	2.65
10.0	55.85	55.85	2.39	2.76
20.0	60.24	60.07	2.92	3.49
29.0	62.59	62.30	3.21	3.88
30.0	62.80	62.50	3.23	3.92
40.0	64.63	64.21	3.46	4.22
50.0	66.05	65.53	3.63	4.46
60.0	67.21	66.61	3.77	4.65
70.0	68.20	67.53	3.89	4.82
80.0	69.05	68.31	4.00	4.96
90.0	69.81	69.01	4.09	5.08
100.0	70.49	69.63	4.17	5.19
200.0	74.99	73.71	4.72	5.93
300.0	77.66	76.09	5.04	6.37
400.0	79.56	77.78	5.26	6.67
500.0	81.05	79.09	5.44	6.91
600.0	82.27	80.16	5.58	7.11
700.0	83.31	81.07	5.71	7.27
800.0	84.21	81.85	5.81	7.41
900.0	85.01	82.54	5.91	7.54
1000.0	85.73	83.16	5.99	7.65
2000.0	90.48	87.23	6.54	8.40
3000.0	93.30	89.61	6.86	8.83
4000.0	95.32	91.30	7.09	9.14
5000.0	96.89	92.60	7.27	9.38
6000.0	98.19	93.67	7.41	9.58
7000.0	99.28	94.58	7.54	9.74
8000.0	100.24	95.36	7.64	9.89
9000.0	101.08	96.05	7.74	10.01
10000.0	101.84	96.67	7.82	10.13
50000.0	113.67	106.11	9.11	11.86
100000.0	118.91	110.18	9.66	12.61
500000.0	131.44	119.63	10.95	14.35
1000000.0	136.99	123.69	11.51	15.09

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    COLUMBIA,MISSOURI (1950-1977). REFER TO SECT. 2.2

          THE SAMPLE NUMBER OF OBSERVATIONS =        28.00
          THE SAMPLE MEAN                   =        50.15
          THE SAMPLE STANDARD DEVIATION     =         6.48
          THE SAMPLE MINIMUM                =        35.79
          THE SAMPLE MAXIMUM                =        62.39

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                         AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

05/05/50       48.                  58. SW                      55.
06/19/51       48.                  58. NW                      55.
09/17/52       48.                  63. NW                      59.
04/15/53       48.                  57. NW                      54.
08/29/54       48.                  56. NW                      53.
11/16/55       48.                  49. NW                      46.
04/07/56       48.                  56. NW                      53.
12/10/57       48.                  56. NW                      53.
07/30/58       48.                  61. NW                      57.
10/23/59       48.                  49. NW                      46.
04/17/60       48.                  54. SW                      51.
05/25/61       48.                  47. NW                      44.
04/12/62       48.                  38. NW                      36.
05/15/63       48.                  46. NW                      43.
03/29/64       48.                  59. NW                      56.
04/11/65       48.                  50. SW                      47.
04/01/66       48.                  45. NW                      42.
01/24/67       48.                  52. SW                      49.
12/04/68       48.                  42. NW                      40.
07/26/69       48.                  50. NW                      47.
05/10/70       20.                  52. NW                      57.
12/15/71       20.                  57. SW                      62.
02/18/72       20.                  35. NW                      38.
05/07/73       20.                  50.  W                      55.
08/31/74       20.                  50. NW                      55.
05/20/75       20.                  47. SW                      51.
03/30/76       20.                  45. SW                      49.
03/30/77       20.                  47. SW                      51.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	49.20	1.12	1.12
3.0	51.95	1.37	1.43
4.0	53.71	1.57	1.69
5.0	55.01	1.72	1.89
6.0	56.04	1.85	2.07
7.0	56.90	1.96	2.21
8.0	57.64	2.05	2.34
9.0	58.28	2.13	2.46
10.0	58.85	2.21	2.56
20.0	62.54	2.70	3.23
28.0	64.30	2.94	3.56
30.0	64.66	2.99	3.63
40.0	66.16	3.20	3.91
50.0	67.31	3.36	4.13
60.0	68.25	3.49	4.31
70.0	69.05	3.60	4.46
80.0	69.74	3.70	4.59
90.0	70.35	3.79	4.70
100.0	70.89	3.86	4.81
200.0	74.45	4.37	5.49
300.0	76.53	4.66	5.89
400.0	78.01	4.87	6.18
500.0	79.15	5.04	6.40
600.0	80.09	5.17	6.58
700.0	80.88	5.28	6.73
800.0	81.56	5.38	6.86
900.0	82.17	5.47	6.98
1000.0	82.71	5.54	7.08
2000.0	86.26	6.05	7.77
3000.0	88.34	6.35	8.18
4000.0	89.81	6.56	8.46
5000.0	90.95	6.73	8.68
6000.0	91.89	6.86	8.87
7000.0	92.68	6.98	9.02
8000.0	93.36	7.08	9.15
9000.0	93.96	7.16	9.27
10000.0	94.50	7.24	9.37
50000.0	102.75	8.43	10.98
100000.0	106.30	8.94	11.67
500000.0	114.55	10.14	13.28
1000000.0	118.10	10.65	13.97

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KANSAS CITY, MISSOURI (1934-1977). REFER TO SECT. 2.2

        THE SAMPLE NUMBER OF OBSERVATIONS =      44.00
        THE SAMPLE MEAN                   =      50.53
        THE SAMPLE STANDARD DEVIATION     =       7.85
        THE SAMPLE MINIMUM                =      37.21
        THE SAMPLE MAXIMUM                =      75.23

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

07/13/34     45.                60. NW                         57.
04/14/35     45.                49. NW                         47.
07/27/36     45.                70. NW                         67.
07/15/37     45.                57. NW                         54.
08/20/38     45.                59. NW                         56.
06/10/39     45.                57.  W                         54.
03/28/40     76.                61. SW                         54.
08/25/41     76.                72. NW                         64.
06/18/42     76.                52. NW                         46.
03/15/43     76.                42. NW                         37.
06/13/44     76.                49.  W                         43.
06/30/45     76.                66. NW                         58.
03/08/46     76.                47. NW                         42.
05/01/47     76.                56. NW                         50.
01/01/48     76.                66. NE                         58.
12/11/49     76.                56.  S                         50.
05/05/50     76.                68. SW                         60.
03/31/51     76.                65. NW                         58.
03/12/52     76.                70. SW                         62.
04/15/53     76.                61.  W                         54.
05/18/54     76.                56. NW                         50.
04/28/55     90.                54. SW                         47.
05/22/56     90.                56.  W                         49.
06/22/57     90.                56. NW                         49.
11/17/58     90.                56. SW                         49.
05/30/59     90.                52.  W                         45.
08/16/60     78.                56. SW                         49.
05/14/61     78.                43. SW                         38.
07/11/62     78.                50.  W                         44.
04/02/63     78.                55. SW                         49.
07/01/64     22.                47.  N                         51.
06/29/65     22.                43.  N                         46.
08/17/66     22.                44. NE                         47.
06/07/67     22.                41. NW                         44.
12/22/68     22.                43. SW                         46.
07/09/69     22.                54. SW                         58.
09/03/70     22.                40.  W                         43.
04/27/71     22.                42. NW                         45.
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12/30/72	22.	46. SW	49.
07/02/73	22.	70. NW	75.
03/10/74	22.	40. E	43.
12/14/75	22.	41. SW	44.
12/28/76	22.	50. N	54.
04/10/77	22.	36. SW	39.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 500.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	49.28	49.29	1.08	1.09
3.0	52.72	52.73	1.33	1.38
4.0	54.92	54.93	1.52	1.63
5.0	56.55	56.56	1.66	1.83
6.0	57.84	57.85	1.79	2.00
7.0	58.92	58.93	1.89	2.14
8.0	59.84	59.85	1.98	2.26
9.0	60.65	60.65	2.06	2.37
10.0	61.36	61.37	2.13	2.47
20.0	65.99	65.98	2.61	3.12
30.0	68.66	68.63	2.89	3.51
40.0	70.54	70.50	3.09	3.78
44.0	71.16	71.12	3.16	3.87
50.0	71.99	71.95	3.25	3.99
60.0	73.18	73.13	3.38	4.16
70.0	74.18	74.13	3.48	4.31
80.0	75.05	74.99	3.58	4.44
90.0	75.81	75.75	3.66	4.55
100.0	76.50	76.43	3.73	4.65
200.0	80.99	80.88	4.22	5.31
300.0	83.62	83.49	4.51	5.69
400.0	85.48	85.33	4.71	5.97
500.0	86.93	86.77	4.87	6.18
600.0	88.11	87.94	5.00	6.36
700.0	89.11	88.92	5.10	6.50
800.0	89.97	89.78	5.20	6.63
900.0	90.74	90.54	5.28	6.75
1000.0	91.42	91.21	5.36	6.85
2000.0	95.92	95.66	5.85	7.51
3000.0	98.56	98.25	6.14	7.90
4000.0	100.43	100.10	6.34	8.18
5000.0	101.88	101.53	6.50	8.39
6000.0	103.06	102.70	6.63	8.57
7000.0	104.07	103.69	6.74	8.72
8000.0	104.94	104.54	6.84	8.84
9000.0	105.70	105.30	6.92	8.96
10000.0	106.39	105.97	7.00	9.06
50000.0	116.89	116.29	8.15	10.61
100000.0	121.42	120.73	8.64	11.28
500000.0	131.98	131.05	9.80	12.83
1000000.0	136.54	135.50	10.29	13.50

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     ST.LOUIS,MISSOURI (1959-1977)

          THE SAMPLE NUMBER OF OBSERVATIONS =        19.00
          THE SAMPLE MEAN                   =        47.39
          THE SAMPLE STANDARD DEVIATION     =         7.39
          THE SAMPLE MINIMUM                =        33.37
          THE SAMPLE MAXIMUM                =        65.68

   DATE      ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                         AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

 03/15/59      82.              38.  W                        33.
 04/01/60      82.              55.  S                        48.
 11/02/61      82.              41.  S                        36.
 08/03/62      20.              38.  S                        42.
 06/03/63      20.              45.  W                        49.
 06/29/64      20.              60. SE                        66.
 08/27/65      20.              54. NW                        59.
 08/15/66      20.              48. NW                        53.
 10/24/67      20.              45. SW                        49.
 03/12/68      20.              42. NE                        46.
 10/10/69      20.              45. SW                        49.
 05/29/70      20.              42. SE                        46.
 12/15/71      20.              42. SW                        46.
 02/18/72      20.              40. NW                        44.
 06/18/73      20.              43.  N                        47.
 06/09/74      20.              50. SW                        55.
 08/25/75      20.              41. NW                        45.
 03/12/76      20.              38. SW                        42.
 05/04/77      20.              42. SW                        46.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	46.29	1.55	1.56
3.0	49.59	1.90	1.98
4.0	51.70	2.17	2.34
5.0	53.27	2.38	2.62
6.0	54.51	2.56	2.86
7.0	55.54	2.71	3.07
8.0	56.43	2.84	3.24
9.0	57.20	2.96	3.40
10.0	57.88	3.06	3.54
19.0	61.99	3.69	4.41
20.0	62.31	3.74	4.48
30.0	64.86	4.14	5.02
40.0	66.66	4.43	5.41
50.0	68.05	4.65	5.72
60.0	69.18	4.84	5.96
70.0	70.13	4.99	6.17
80.0	70.96	5.12	6.36
90.0	71.69	5.24	6.52
100.0	72.34	5.35	6.66
200.0	76.62	6.05	7.61
300.0	79.12	6.46	8.16
400.0	80.89	6.75	8.55
500.0	82.27	6.97	8.86
600.0	83.39	7.16	9.11
700.0	84.34	7.32	9.32
800.0	85.16	7.45	9.50
900.0	85.89	7.57	9.67
1000.0	86.54	7.68	9.81
2000.0	90.80	8.38	10.76
3000.0	93.30	8.80	11.32
4000.0	95.07	9.09	11.72
5000.0	96.44	9.32	12.03
6000.0	97.56	9.50	12.28
7000.0	98.51	9.66	12.49
8000.0	99.33	9.80	12.67
9000.0	100.06	9.92	12.84
10000.0	100.71	10.03	12.98
50000.0	110.61	11.67	15.20
100000.0	114.87	12.39	16.16
500000.0	124.79	14.04	18.39
1000000.0	129.05	14.75	19.35

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SPRINGFIELD,MISSOURI (1941-1977). REFER TO SECT. 2.2

         THE SAMPLE NUMBER OF OBSERVATIONS =      37.00
         THE SAMPLE MEAN                   =      50.13
         THE SAMPLE STANDARD DEVIATION     =       7.35
         THE SAMPLE MINIMUM                =      38.31
         THE SAMPLE MAXIMUM                =      71.15

   DATE    ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
           ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

 04/17/41     67.               52.  S                       47.
 03/16/42     67.               53. SW                       48.
 04/11/43     67.               56. NW                       50.
 10/02/44     67.               49. NW                       44.
 12/30/45     59.               70. NW                       64.
 05/02/46     59.               66.  W                       60.
 06/27/47     59.               57.  N                       52.
 09/07/48     59.               54.  N                       49.
 12/21/49     59.               55.  W                       50.
 04/10/50     59.               51.  S                       47.
 06/21/51     59.               57.  S                       52.
 03/12/52     59.               57.  S                       52.
 05/26/53     59.               65.  N                       59.
 08/19/54     59.               59.  W                       54.
 05/26/55     59.               56. SW                       51.
 05/30/56     59.               52. NE                       48.
 05/22/57     59.               56. NW                       51.
 06/10/58     59.               54. NW                       49.
 06/11/59     59.               57.  N                       52.
 03/29/60     59.               65. SW                       59.
 11/21/61     59.               59. SE                       54.
 06/18/62     59.               47. NW                       43.
 09/10/63     59.               52. SE                       48.
 01/19/64     20.               35.  S                       38.
 04/05/65     20.               65. SW                       71.
 05/17/66     20.               38.  N                       42.
 04/23/67     20.               47.  N                       51.
 04/22/68     20.               45.  N                       49.
 07/02/69     20.               43. NE                       47.
 06/24/70     20.               43.  E                       47.
 12/14/71     20.               60. SE                       66.
 09/07/72     20.               38. NW                       42.
 07/10/73     20.               39. NE                       43.
 08/17/74     20.               42. NW                       46.
 05/20/75     20.               45.  S                       49.
 12/09/76     20.               35.  S                       38.
 05/30/77     20.               37. NW                       41.
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RETURN PERIOD    PREDICTED EXTREME WIND     PREDICTED EXTREME WIND    ESTIMATED       ESTIMATED
 (IN YEARS)       BASED ON OPTIMAL              BASED ON              STAN. DEV.      STAN. DEV.
                 EXTREME VALUE TYPE 2.      EXTREME VALUE TYPE 1    SAMPL. ERROR    SAMPL. ERROR
                     DISTRIBUTION              DISTRIBUTION         CRAMER-RAO      METH. OF MOM.
                 (GAMMA =     50.00000)

      2.0               48.92                      48.99                1.11            1.11
      3.0               52.11                      52.21                1.36            1.41
      4.0               54.17                      54.27                1.55            1.66
      5.0               55.71                      55.80                1.70            1.87
      6.0               56.94                      57.01                1.82            2.04

      7.0               57.96                      58.02                1.93            2.19
      8.0               58.84                      58.88                2.02            2.31
      9.0               59.61                      59.63                2.11            2.42
     10.0               60.29                      60.30                2.18            2.53
     20.0               64.75                      64.63                2.67            3.19

     30.0               67.35                      67.12                2.95            3.58
     37.0               68.69                      68.39                3.10            3.78
     40.0               69.19                      68.87                3.16            3.86
     50.0               70.63                      70.23                3.32            4.07
     60.0               71.80                      71.33                3.45            4.25

     70.0               72.79                      72.26                3.56            4.40
     80.0               73.65                      73.07                3.65            4.53
     90.0               74.41                      73.78                3.74            4.64
    100.0               75.10                      74.42                3.81            4.75
    200.0               79.62                      78.60                4.31            5.42

    300.0               82.28                      81.04                4.60            5.82
    400.0               84.19                      82.77                4.81            6.10
    500.0               85.67                      84.11                4.97            6.31
    600.0               86.89                      85.21                5.10            6.49
    700.0               87.92                      86.13                5.21            6.64

    800.0               88.82                      86.94                5.31            6.77
    900.0               89.61                      87.64                5.40            6.89
   1000.0               90.33                      88.28                5.47            6.99
   2000.0               95.04                      92.44                5.97            7.67
   3000.0               97.83                      94.88                6.27            8.07

   4000.0               99.82                      96.61                6.48            8.35
   5000.0              101.38                      97.95                6.64            8.57
   6000.0              102.65                      99.04                6.77            8.75
   7000.0              103.73                      99.97                6.89            8.90
   8000.0              104.67                     100.77                6.98            9.03

   9000.0              105.50                     101.48                7.07            9.15
  10000.0              106.25                     102.11                7.15            9.25
  50000.0              117.81                     111.78                8.32           10.84
 100000.0              122.91                     115.94                8.83           11.52
 500000.0              135.04                     125.62               10.01           13.11

1000000.0              140.38                     129.78               10.51           13.79
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BILLINGS,MONTANA (1939-1977). REFER TO SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 39.00
THE SAMPLE MEAN = 59.39
THE SAMPLE STANDARD DEVIATION = 8.01
THE SAMPLE MINIMUM = 45.82
THE SAMPLE MAXIMUM = 84.19

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
05/19/39	39.	68. NW	66.
07/09/40	39.	70. NW	68.
05/13/41	39.	50. N	49.
03/06/42	39.	55. NW	53.
10/13/43	39.	63. NW	61.
08/22/44	39.	61. N	59.
01/13/45	39.	56. NW	54.
05/26/46	39.	66. NW	64.
07/18/47	39.	73. N	71.
07/01/48	39.	66. NW	64.
10/10/49	39.	68. NW	66.
04/01/50	39.	66. W	64.
01/22/51	39.	58. NW	56.
02/04/52	39.	68. NW	66.
12/28/53	39.	66. NW	64.
04/14/54	39.	60. NW	58.
07/25/55	39.	58. NW	56.
03/03/56	39.	61. NW	59.
11/26/57	39.	57. NW	55.
07/02/58	23.	64. NW	68.
09/08/59	23.	60. NW	64.
06/20/60	23.	52. NW	55.
05/10/61	23.	58. NW	62.
06/03/62	23.	47. W	50.
02/01/63	23.	72. W	77.
07/14/64	23.	59. NW	63.
01/31/65	23.	54. NW	58.
08/04/66	23.	48. NW	51.
10/19/67	23.	56. NW	60.
06/13/68	23.	79. NW	84.
06/06/69	23.	50. W	53.
04/07/70	23.	49. NW	52.
03/11/71	23.	49. NW	52.
02/16/72	23.	50. W	53.
11/12/73	23.	43. NW	46.
01/14/74	23.	54. W	58.
12/01/75	23.	49. W	52.
03/23/76	23.	50. NW	53.

12/14/77	23.	45. NW	48.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	58.14	1.18	1.18
3.0	61.65	1.44	1.50
4.0	63.90	1.64	1.77
5.0	65.57	1.80	1.98
6.0	66.89	1.94	2.17
7.0	67.99	2.05	2.32
8.0	68.93	2.15	2.45
9.0	69.75	2.24	2.57
10.0	70.48	2.31	2.68
20.0	75.20	2.83	3.39
30.0	77.92	3.13	3.80
39.0	79.66	3.33	4.07
40.0	79.83	3.35	4.09
50.0	81.31	3.52	4.32
60.0	82.52	3.66	4.51
70.0	83.53	3.77	4.67
80.0	84.41	3.88	4.81
90.0	85.19	3.97	4.93
100.0	85.89	4.05	5.04
200.0	90.45	4.57	5.75
300.0	93.11	4.88	6.17
400.0	95.00	5.10	6.47
500.0	96.46	5.27	6.70
600.0	97.66	5.41	6.89
700.0	98.67	5.53	7.05
800.0	99.54	5.64	7.19
900.0	100.32	5.73	7.31
1000.0	101.01	5.81	7.42
2000.0	105.55	6.34	8.14
3000.0	108.21	6.65	8.56
4000.0	110.10	6.88	8.86
5000.0	111.56	7.05	9.10
6000.0	112.75	7.19	9.29
7000.0	113.76	7.31	9.45
8000.0	114.64	7.41	9.59
9000.0	115.41	7.50	9.71
10000.0	116.10	7.58	9.82
50000.0	126.65	8.83	11.50
100000.0	131.20	9.37	12.22
500000.0	141.75	10.62	13.91
1000000.0	146.30	11.16	14.63

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GREAT FALLS,MONTANA (1944-1977)

      THE SAMPLE NUMBER OF OBSERVATIONS =       34.00
      THE SAMPLE MEAN                   =       59.02
      THE SAMPLE STANDARD DEVIATION     =        6.48
      THE SAMPLE MINIMUM                =       49.43
      THE SAMPLE MAXIMUM                =       74.15

  DATE      ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
           ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                           AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

01/17/44       75.                64. SW                      57.
09/08/45       75.                73. NW                      65.
04/26/46       75.                70.  W                      62.
06/13/47       75.                65.  W                      58.
12/19/48       75.                72. SW                      64.
10/28/49       75.                73.  W                      65.
11/21/50       75.                67. SW                      59.
03/15/51       75.                73.  W                      65.
07/04/52       75.                66. SW                      59.
08/24/53       75.                68.  W                      60.
02/24/54       75.                72.  W                      64.
11/03/55       75.                73. SW                      65.
12/10/56       75.                82. SW                      73.
07/22/57       75.                68. SW                      60.
12/31/58       75.                75. SW                      67.
01/18/59       75.                56. SW                      50.
09/04/60       22.                69. SW                      74.
03/01/61       22.                56. SW                      60.
11/20/62       22.                61. SW                      66.
12/31/63       22.                51. SW                      55.
09/30/64       22.                47.  W                      51.
10/06/65       22.                56.  W                      60.
11/25/66       22.                51. SW                      55.
10/19/67       22.                56. SW                      60.
04/11/68       22.                47.  W                      51.
02/03/69       22.                47. SW                      51.
06/27/70       22.                58. SW                      62.
12/31/71       22.                47. SW                      51.
12/26/72       22.                50. SW                      54.
10/13/73       22.                48. SW                      52.
01/15/74       22.                55. SW                      59.
10/04/75       22.                52. SW                      56.
07/11/76       22.                48. SE                      52.
02/16/77       22.                46. SW                      49.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	58.03	1.02	1.02
3.0	60.83	1.25	1.30
4.0	62.63	1.42	1.53
5.0	63.95	1.56	1.72
6.0	65.01	1.68	1.87
7.0	65.89	1.77	2.01
8.0	66.64	1.86	2.12
9.0	67.30	1.94	2.23
10.0	67.88	2.00	2.32
20.0	71.64	2.45	2.93
30.0	73.81	2.71	3.29
34.0	74.47	2.80	3.40
40.0	75.33	2.90	3.54
50.0	76.51	3.05	3.74
60.0	77.48	3.17	3.91
70.0	78.29	3.27	4.04
80.0	78.99	3.36	4.16
90.0	79.61	3.43	4.27
100.0	80.17	3.50	4.36
200.0	83.80	3.96	4.98
300.0	85.93	4.23	5.34
400.0	87.43	4.42	5.60
500.0	88.60	4.57	5.80
600.0	89.56	4.69	5.96
700.0	90.36	4.79	6.10
800.0	91.06	4.88	6.22
900.0	91.68	4.96	6.33
1000.0	92.23	5.03	6.42
2000.0	95.86	5.49	7.05
3000.0	97.98	5.76	7.41
4000.0	99.48	5.95	7.67
5000.0	100.65	6.10	7.87
6000.0	101.60	6.22	8.04
7000.0	102.41	6.33	8.18
8000.0	103.11	6.42	8.30
9000.0	103.72	6.49	8.41
10000.0	104.27	6.57	8.50
50000.0	112.69	7.64	9.96
100000.0	116.31	8.11	10.58
500000.0	124.74	9.19	12.04
1000000.0	128.36	9.66	12.67

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HAVRE,MONTANA (1961-1977)


     THE SAMPLE NUMBER OF OBSERVATIONS =      17.00
     THE SAMPLE MEAN                   =      57.95
     THE SAMPLE STANDARD DEVIATION     =       9.23
     THE SAMPLE MINIMUM                =      45.97
     THE SAMPLE MAXIMUM                =      77.72


  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                         AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

07/28/61      20.                71. NW                       78.
11/20/62      20.                70. SW                       77.
02/05/63      20.                58. SW                       63.
03/01/64      20.                52. SW                       57.
06/12/65      20.                59.  W                       65.
05/16/66      20.                43.  W                       47.
06/03/67      20.                50. NW                       55.
08/11/68      20.                54. NW                       59.
07/02/69      20.                56. NW                       61.
06/27/70      20.                44. SW                       48.
09/11/71      20.                52.  W                       57.
02/16/72      20.                52. SW                       57.
08/13/73      20.                52. NW                       57.
06/20/74      20.                42. SW                       46.
08/21/75      20.                54. SW                       59.
08/25/76      20.                49. SW                       54.
07/29/77      20.                42. NW                       46.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 40.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	56.50	56.60	2.05	2.05
3.0	60.60	60.74	2.51	2.61
4.0	63.26	63.39	2.86	3.08
5.0	65.24	65.35	3.15	3.46
6.0	66.83	66.91	3.38	3.78
7.0	68.15	68.20	3.58	4.05
8.0	69.29	69.31	3.75	4.28
9.0	70.28	70.28	3.90	4.49
10.0	71.17	71.14	4.04	4.67
17.0	75.61	75.40	4.72	5.62
20.0	76.96	76.69	4.94	5.90
30.0	80.34	79.88	5.47	6.63
40.0	82.75	82.13	5.85	7.14
50.0	84.62	83.87	6.14	7.54
60.0	86.15	85.29	6.38	7.87
70.0	87.45	86.49	6.58	8.14
80.0	88.58	87.53	6.76	8.38
90.0	89.58	88.44	6.92	8.60
100.0	90.47	89.26	7.06	8.79
200.0	96.40	94.63	7.98	10.03
300.0	99.92	97.76	8.52	10.76
400.0	102.43	99.98	8.90	11.28
500.0	104.39	101.71	9.20	11.69
600.0	106.00	103.11	9.44	12.02
700.0	107.37	104.30	9.65	12.30
800.0	108.56	105.33	9.83	12.54
900.0	109.61	106.24	9.99	12.75
1000.0	110.55	107.06	10.13	12.94
2000.0	116.82	112.40	11.06	14.20
3000.0	120.54	115.53	11.60	14.94
4000.0	123.20	117.75	11.99	15.46
5000.0	125.27	119.47	12.29	15.86
6000.0	126.98	120.88	12.54	16.20
7000.0	128.42	122.07	12.75	16.48
8000.0	129.68	123.10	12.93	16.72
9000.0	130.79	124.01	13.08	16.93
10000.0	131.79	124.82	13.23	17.13
50000.0	147.38	137.24	15.40	20.06
100000.0	154.29	142.58	16.34	21.32
500000.0	170.81	155.01	18.52	24.26
1000000.0	178.13	160.35	19.46	25.53

HELENA, MONTANA (1940-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 38.00
THE SAMPLE MEAN = 55.21
THE SAMPLE STANDARD DEVIATION = 6.48
THE SAMPLE MINIMUM = 45.97
THE SAMPLE MAXIMUM = 71.15

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
06/01/40	35.	59.	SW	58.
12/03/41	35.	59.	S	58.
07/10/42	35.	59.	SW	58.
02/28/43	35.	59.	N	58.
01/17/44	43.	73.	SW	70.
10/30/45	43.	57.	W	55.
12/15/46	43.	59.	NW	56.
08/21/47	43.	65.	S	62.
10/05/48	43.	62.	W	59.
02/16/49	43.	73.	W	70.
01/10/50	43.	59.	SE	56.
09/25/51	43.	51.	W	49.
02/04/52	43.	56.	SW	54.
12/12/53	43.	57.	SW	55.
02/24/54	43.	52.	W	50.
03/11/55	43.	61.	SW	58.
07/13/56	43.	50.	S	48.
07/22/57	43.	57.	W	55.
11/24/58	43.	56.	N	54.
06/12/59	43.	54.	W	52.
07/20/60	43.	60.	SW	57.
07/05/61	43.	57.	W	55.
11/19/62	20.	56.	SW	61.
04/15/63	20.	42.	W	46.
10/01/64	20.	45.	W	49.
10/05/65	20.	42.	W	46.
01/08/66	20.	54.	SW	59.
01/15/67	20.	54.	W	59.
09/18/68	20.	46.	W	50.
02/09/69	20.	45.	S	49.
06/27/70	20.	56.	W	61.
03/11/71	20.	43.	W	47.
01/11/72	20.	50.	NW	55.
06/18/73	20.	44.	NW	48.
01/30/74	20.	43.	SW	47.
07/03/75	20.	65.	SW	71.
06/30/76	20.	45.	SW	49.
11/26/77	20.	47.	NW	51.

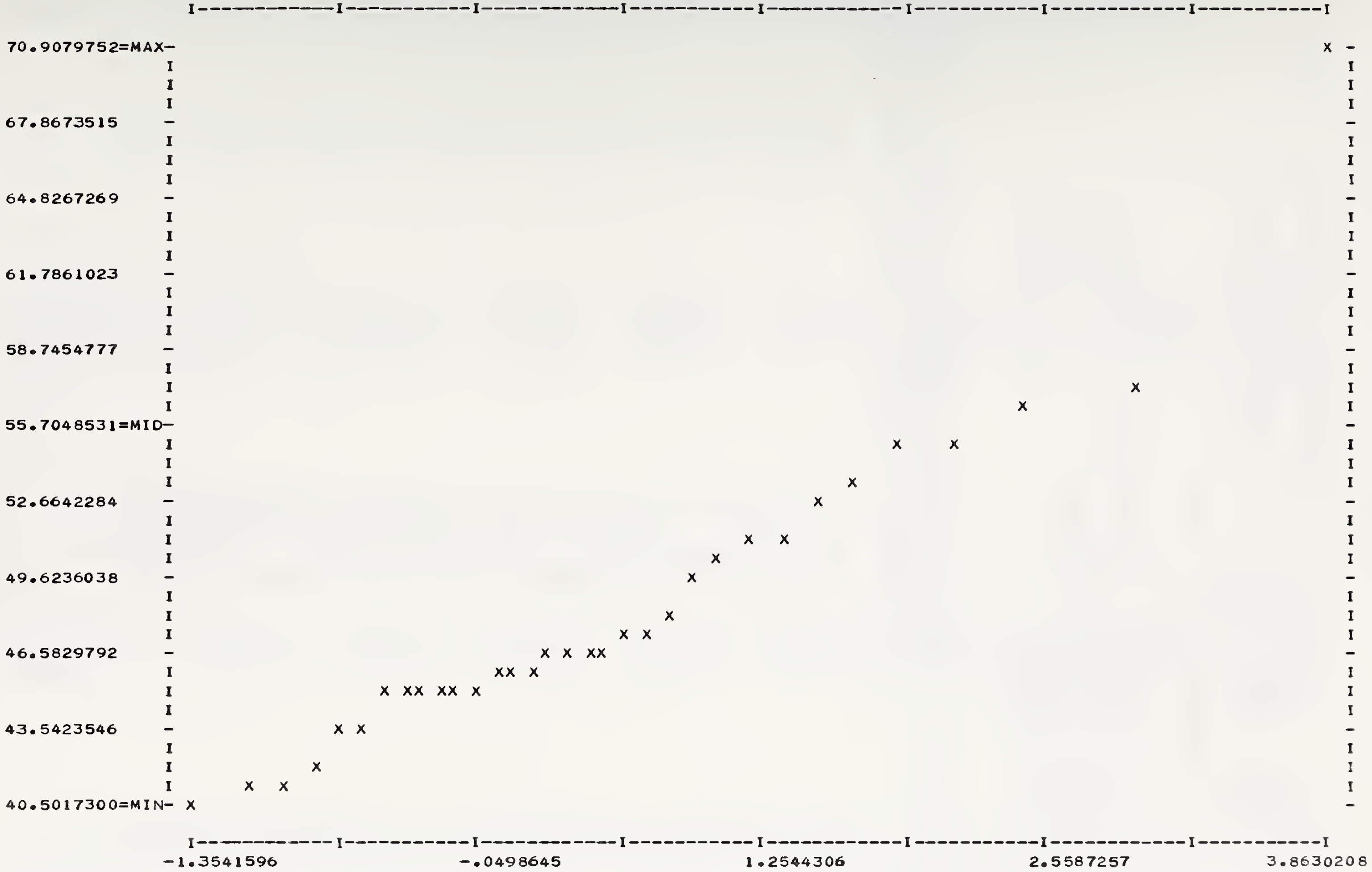
RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	54.20	.96	.97
3.0	57.02	1.18	1.23
4.0	58.83	1.35	1.45
5.0	60.16	1.48	1.63
6.0	61.22	1.59	1.77
7.0	62.10	1.68	1.90
8.0	62.86	1.76	2.01
9.0	63.52	1.83	2.11
10.0	64.10	1.90	2.20
20.0	67.89	2.32	2.77
30.0	70.06	2.57	3.11
38.0	71.32	2.72	3.31
40.0	71.60	2.75	3.36
50.0	72.78	2.89	3.54
60.0	73.75	3.00	3.70
70.0	74.57	3.09	3.83
80.0	75.27	3.18	3.94
90.0	75.90	3.25	4.04
100.0	76.45	3.32	4.13
200.0	80.11	3.75	4.71
300.0	82.24	4.00	5.06
400.0	83.76	4.18	5.30
500.0	84.93	4.32	5.49
600.0	85.89	4.44	5.65
700.0	86.70	4.53	5.78
800.0	87.40	4.62	5.89
900.0	88.02	4.69	5.99
1000.0	88.58	4.76	6.08
2000.0	92.22	5.20	6.67
3000.0	94.35	5.45	7.02
4000.0	95.86	5.64	7.26
5000.0	97.04	5.78	7.46
6000.0	98.00	5.89	7.61
7000.0	98.81	5.99	7.74
8000.0	99.51	6.07	7.86
9000.0	100.13	6.15	7.96
10000.0	100.68	6.22	8.05
50000.0	109.14	7.24	9.43
100000.0	112.78	7.68	10.02
500000.0	121.25	8.70	11.40
1000000.0	124.89	9.14	11.99

MISSOULA,MONTANA (1945-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 33.00
THE SAMPLE MEAN = 48.26
THE SAMPLE STANDARD DEVIATION = 5.93
THE SAMPLE MINIMUM = 40.50
THE SAMPLE MAXIMUM = 70.91

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
06/21/45	32.	45.	S	45.
06/14/46	32.	45.	W	45.
02/02/47	32.	42.	NW	42.
04/21/48	32.	45.	SW	45.
07/11/49	32.	46.	NW	46.
04/23/50	32.	51.	NW	51.
03/15/51	33.	47.	NW	47.
08/08/52	33.	45.	SW	45.
01/09/53	36.	52.	S	51.
05/24/54	36.	57.	SW	56.
12/26/55	36.	47.	NW	46.
08/15/56	36.	58.	SW	57.
07/12/57	36.	72.	SE	71.
08/25/58	18.	40.	SW	45.
06/08/59	18.	42.	NW	47.
10/06/60	18.	37.	W	41.
11/01/61	18.	42.	NW	47.
08/16/62	18.	49.	SW	55.
02/04/63	18.	47.	NW	53.
02/04/64	18.	45.	W	50.
06/06/65	18.	43.	NE	48.
05/22/66	20.	40.	W	44.
01/15/67	20.	38.	SW	42.
07/19/68	20.	37.	NW	41.
01/07/69	20.	42.	NW	46.
02/03/70	20.	42.	SW	46.
10/26/71	20.	40.	SW	44.
03/06/72	20.	50.	SW	55.
08/13/73	20.	45.	SW	49.
09/26/74	20.	43.	N	47.
09/16/75	20.	41.	NW	45.
08/22/76	20.	49.	S	54.
06/01/77	20.	43.	NW	47.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 4.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	46.73	47.37	.95	.95
3.0	48.95	49.91	1.16	1.20
4.0	50.54	51.54	1.32	1.42
5.0	51.80	52.75	1.45	1.60
6.0	52.87	53.70	1.56	1.74
7.0	53.80	54.50	1.65	1.87
8.0	54.62	55.18	1.73	1.98
9.0	55.37	55.78	1.80	2.07
10.0	56.05	56.31	1.86	2.16
20.0	60.94	59.72	2.28	2.72
30.0	64.18	61.69	2.52	3.06
33.0	64.99	62.15	2.58	3.14
40.0	66.68	63.07	2.70	3.30
50.0	68.74	64.15	2.83	3.48
60.0	70.50	65.02	2.94	3.63
70.0	72.06	65.76	3.04	3.76
80.0	73.45	66.39	3.12	3.87
90.0	74.72	66.96	3.19	3.97
100.0	75.89	67.46	3.26	4.05
200.0	84.38	70.76	3.68	4.63
300.0	90.06	72.69	3.93	4.97
400.0	94.45	74.06	4.11	5.21
500.0	98.08	75.12	4.25	5.39
600.0	101.20	75.98	4.36	5.55
700.0	103.96	76.71	4.45	5.67
800.0	106.43	77.35	4.54	5.79
900.0	108.67	77.91	4.61	5.88
1000.0	110.74	78.41	4.67	5.97
2000.0	125.79	81.70	5.10	6.55
3000.0	135.88	83.62	5.36	6.89
4000.0	143.69	84.99	5.53	7.13
5000.0	150.14	86.05	5.67	7.32
6000.0	155.69	86.91	5.79	7.47
7000.0	160.58	87.65	5.88	7.60
8000.0	164.97	88.28	5.97	7.72
9000.0	168.97	88.84	6.04	7.81
10000.0	172.65	89.34	6.10	7.90
50000.0	242.70	96.98	7.11	9.26
100000.0	282.72	100.27	7.54	9.84
500000.0	407.43	107.91	8.55	11.20
1000000.0	478.61	111.20	8.98	11.78



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EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =    .15618669+01)              THE SAMPLE SIZE N =      33
PROBABILITY PLOT CORRELATION COEFFICIENT =   .96352    ESTIMATED INTERCEPT =    .45627440+02   ESTIMATED SLOPE =    .47458217+01
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      NORTH PLATTE,NEBRASKA (1949-1977)

           THE SAMPLE NUMBER OF OBSERVATIONS =       29.00
           THE SAMPLE MEAN                   =       61.77
           THE SAMPLE STANDARD DEVIATION     =        6.72
           THE SAMPLE MINIMUM                =       51.45
           THE SAMPLE MAXIMUM                =       74.44

   DATE     ANEMOMETER    FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
           ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

 03/30/49      48.               65.  N                      61.
 03/07/50      48.               72.  N                      68.
 03/28/51      48.               59.  N                      56.
 03/12/52      32.               65. NW                      65.
 05/28/53      32.               70.  S                      70.
 02/19/54      32.               59.  N                      59.
 05/02/55      32.               70.  S                      70.
 10/29/56      32.               72. SW                      72.
 05/25/57      32.               66. NW                      66.
 11/04/58      32.               59. NW                      59.
 10/23/59      32.               59. NW                      59.
 06/19/60      32.               66.  N                      66.
 04/02/61      32.               54. NW                      54.
 05/15/62      32.               57. SE                      57.
 04/15/63      32.               52. NW                      52.
 06/22/64      32.               65.  W                      65.
 03/17/65      20.               50. NW                      55.
 03/04/66      20.               61. NW                      67.
 06/14/67      20.               51. NW                      56.
 12/12/68      20.               48. NW                      53.
 07/05/69      20.               66. SE                      72.
 05/12/70      20.               53.  W                      58.
 03/18/71      20.               57. NW                      62.
 05/01/72      20.               56. NW                      61.
 05/27/73      20.               47. NW                      51.
 11/13/74      20.               48. NW                      53.
 04/08/75      20.               68. SE                      74.
 12/28/76      20.               57. NW                      62.
 03/11/77      20.               59.  N                      65.
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RETURN PERIOD     PREDICTED EXTREME WIND    ESTIMATED      ESTIMATED
 (IN YEARS)            BASED ON             STAN. DEV.     STAN. DEV.
                  EXTREME VALUE TYPE 1    SAMPL. ERROR   SAMPL. ERROR
                      DISTRIBUTION          CRAMER-RAO    METH. OF MOM.

       2.0               60.75                 1.14           1.15
       3.0               63.68                 1.40           1.46
       4.0               65.56                 1.60           1.72
       5.0               66.95                 1.75           1.93
       6.0               68.05                 1.88           2.11

       7.0               68.97                 1.99           2.26
       8.0               69.75                 2.09           2.39
       9.0               70.44                 2.17           2.50
      10.0               71.05                 2.25           2.61
      20.0               74.99                 2.75           3.29

      29.0               77.06                 3.02           3.66
      30.0               77.25                 3.05           3.70
      40.0               78.85                 3.26           3.98
      50.0               80.08                 3.42           4.21
      60.0               81.09                 3.56           4.39

      70.0               81.93                 3.67           4.54
      80.0               82.67                 3.77           4.68
      90.0               83.32                 3.86           4.79
     100.0               83.90                 3.93           4.90
     200.0               87.70                 4.45           5.60

     300.0               89.92                 4.75           6.00
     400.0               91.50                 4.96           6.29
     500.0               92.72                 5.13           6.52
     600.0               93.71                 5.27           6.70
     700.0               94.56                 5.38           6.86

     800.0               95.29                 5.48           6.99
     900.0               95.93                 5.57           7.11
    1000.0               96.51                 5.65           7.22
    2000.0              100.30                 6.17           7.92
    3000.0              102.52                 6.47           8.33

    4000.0              104.09                 6.69           8.62
    5000.0              105.31                 6.86           8.85
    6000.0              106.31                 6.99           9.03
    7000.0              107.15                 7.11           9.19
    8000.0              107.88                 7.21           9.32

    9000.0              108.52                 7.30           9.44
   10000.0              109.10                 7.38           9.55
   50000.0              117.90                 8.59          11.19
  100000.0              121.69                 9.11          11.89
  500000.0              130.50                10.33          13.53

 1000000.0              134.28                10.85          14.24
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OMAHA,NEBRASKA (1936-1977)

      THE SAMPLE NUMBER OF OBSERVATIONS =       42.00
      THE SAMPLE MEAN                   =       55.00
      THE SAMPLE STANDARD DEVIATION     =       10.67
      THE SAMPLE MINIMUM                =       42.69
      THE SAMPLE MAXIMUM                =      104.00

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

07/19/36      44.               109.  N                    104.
03/23/37      44.                73.  E                     70.
08/07/38      44.                63. SW                     60.
10/04/39      44.                59. SW                     56.
05/14/40      44.                50. NW                     48.
07/10/41      68.                63. NW                     57.
06/19/42      68.                72.  N                     65.
08/11/43      68.                55. SW                     49.
08/01/44      68.                66.  N                     59.
07/27/45      68.                54.  N                     48.
04/03/46      68.                49.  W                     44.
07/12/47      68.                65. NE                     58.
04/03/48      68.                49.  S                     44.
10/10/49      68.                59.  S                     53.
03/07/50      68.                73. NW                     66.
11/03/51      68.                56. NW                     50.
08/19/52      68.                59.  W                     53.
05/10/53      68.                59. SW                     53.
04/20/54      68.                54. NW                     48.
01/28/55      74.                49. NW                     44.
07/07/56      74.                57. NW                     51.
05/16/57      74.                58.  E                     52.
07/08/58      74.                54.  S                     48.
05/20/59      74.                65.  W                     58.
08/05/60      74.                55.  N                     49.
04/15/61      74.                50. NW                     44.
05/07/62      74.                56. NW                     50.
12/08/63      20.                49. NW                     54.
05/25/64      20.                63. NW                     69.
01/31/65      20.                45. NW                     49.
03/23/66      20.                50.  N                     55.
06/04/67      20.                56.  N                     61.
05/15/68      20.                65. NW                     71.
01/05/69      20.                39. NW                     43.
02/02/70      20.                47. NW                     51.
06/18/71      20.                56. NW                     61.
01/24/72      20.                47. NW                     51.
05/09/73      20.                50.  N                     55.
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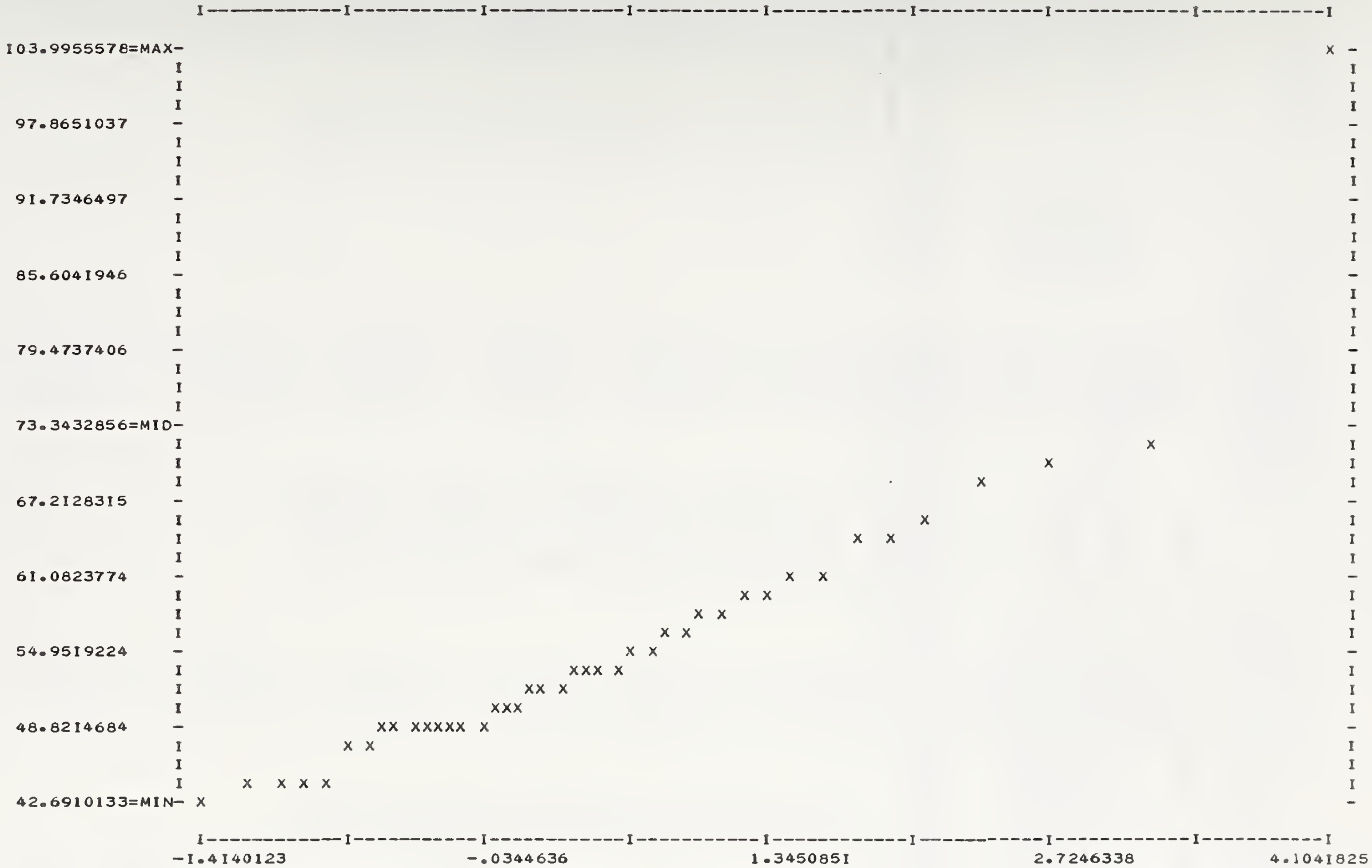
08/16/74	20.	44. NE	48.
11/20/75	20.	44. NW	48.
04/16/76	20.	58. S	63.
01/27/77	20.	45. NW	49.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 3.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	51.98	53.41	1.51	1.51
3.0	55.54	57.84	1.85	1.92
4.0	58.18	60.67	2.11	2.27
5.0	60.34	62.76	2.31	2.55
6.0	62.19	64.43	2.48	2.78
7.0	63.82	65.81	2.63	2.98
8.0	65.29	67.00	2.76	3.15
9.0	66.64	68.03	2.87	3.30
10.0	67.88	68.95	2.97	3.44
20.0	77.13	74.89	3.63	4.34
30.0	83.55	78.31	4.02	4.87
40.0	88.63	80.72	4.30	5.25
42.0	89.54	81.12	4.35	5.32
50.0	92.92	82.58	4.52	5.55
60.0	96.66	84.09	4.69	5.79
70.0	100.00	85.38	4.84	5.99
80.0	103.04	86.49	4.97	6.17
90.0	105.83	87.46	5.09	6.32
100.0	108.41	88.34	5.19	6.46
200.0	127.89	94.08	5.87	7.38
300.0	141.54	97.43	6.26	7.92
400.0	152.40	99.80	6.55	8.30
500.0	161.57	101.65	6.77	8.60
600.0	169.59	103.15	6.95	8.84
700.0	176.75	104.42	7.10	9.04
800.0	183.26	105.53	7.23	9.22
900.0	189.25	106.50	7.35	9.38
1000.0	194.81	107.37	7.45	9.52
2000.0	236.69	113.09	8.13	10.44
3000.0	266.06	116.43	8.54	10.99
4000.0	289.43	118.81	8.82	11.37
5000.0	309.18	120.65	9.04	11.67
6000.0	326.44	122.15	9.22	11.91
7000.0	341.87	123.43	9.37	12.12
8000.0	355.90	124.53	9.51	12.30
9000.0	368.79	125.50	9.62	12.46
10000.0	380.78	126.37	9.73	12.60
50000.0	627.14	139.65	11.33	14.75
100000.0	781.37	145.36	12.02	15.68
500000.0	1312.77	158.65	13.62	17.84
1000000.0	1645.20	164.37	14.31	18.77



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EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =     .15618669+01)                 THE SAMPLE SIZE N =     42
PROBABILITY PLOT CORRELATION COEFFICIENT =   .94035     ESTIMATED INTERCEPT =    .50388352+02   ESTIMATED SLOPE =    .82493696+01
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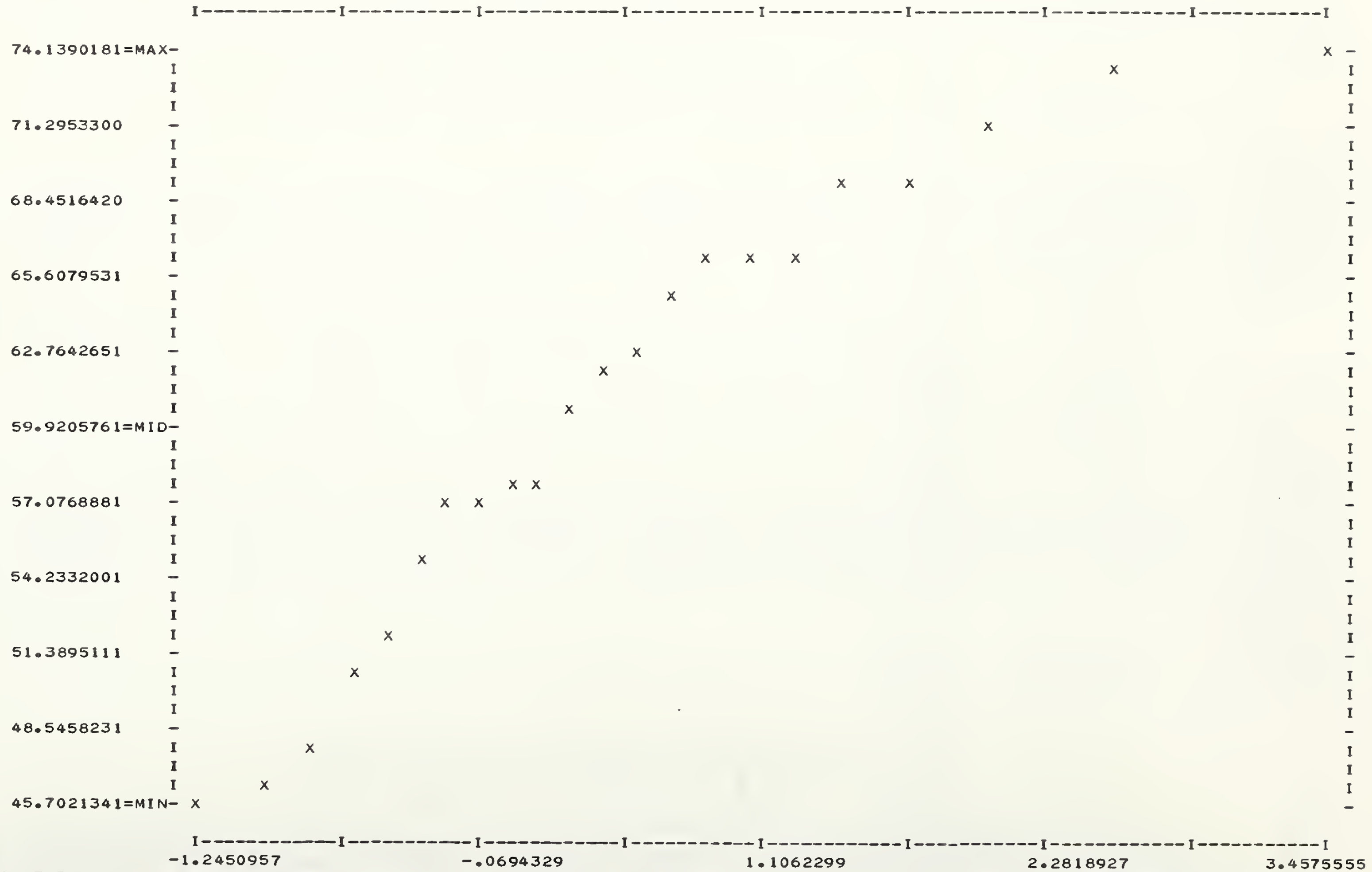
VALENTINE.NEBRASKA (1956-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 22.00
THE SAMPLE MEAN = 60.57
THE SAMPLE STANDARD DEVIATION = 8.56
THE SAMPLE MINIMUM = 45.70
THE SAMPLE MAXIMUM = 74.14

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
08/10/56	30.	65. NW	66.
11/29/57	30.	47. N	48.
11/04/58	30.	56. NW	57.
05/25/59	30.	54. NW	55.
11/28/60	30.	51. N	52.
09/28/61	30.	57. S	58.
08/10/62	30.	72. S	73.
06/21/63	30.	65. S	66.
06/08/64	30.	57. SW	58.
01/31/65	30.	45. NW	46.
06/04/66	30.	61. NW	62.
08/21/67	30.	56. SW	57.
06/20/68	30.	68. N	69.
09/12/69	30.	50. S	51.
07/26/70	30.	46. SW	47.
10/18/71	30.	65. SE	66.
01/12/72	30.	64. NW	65.
09/23/73	30.	70. S	71.
05/19/74	30.	62. SW	63.
06/18/75	30.	73. SE	74.
03/12/76	30.	68. NW	69.
05/18/77	30.	60. SW	61.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE I DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	59.31	1.67	1.68
3.0	63.03	2.05	2.13
4.0	65.40	2.34	2.51
5.0	67.16	2.56	2.82
6.0	68.56	2.75	3.08
7.0	69.72	2.91	3.30
8.0	70.72	3.05	3.49
9.0	71.58	3.18	3.66
10.0	72.36	3.29	3.81
20.0	77.34	4.02	4.81
22.0	78.02	4.13	4.95
30.0	80.21	4.46	5.40
40.0	82.23	4.77	5.82
50.0	83.79	5.01	6.15
60.0	85.06	5.20	6.41
70.0	86.14	5.37	6.64
80.0	87.07	5.51	6.84
90.0	87.89	5.64	7.01
100.0	88.62	5.75	7.16
200.0	93.44	6.50	8.18
300.0	96.25	6.94	8.78
400.0	98.25	7.26	9.20
500.0	99.79	7.50	9.53
600.0	101.06	7.70	9.80
700.0	102.13	7.87	10.03
800.0	103.05	8.01	10.22
900.0	103.87	8.14	10.40
1000.0	104.60	8.26	10.55
2000.0	109.40	9.02	11.58
3000.0	112.21	9.46	12.18
4000.0	114.20	9.78	12.60
5000.0	115.74	10.02	12.93
6000.0	117.01	10.22	13.20
7000.0	118.07	10.39	13.43
8000.0	119.00	10.54	13.63
9000.0	119.81	10.67	13.81
10000.0	120.54	10.78	13.96
50000.0	131.69	12.56	16.35
100000.0	136.48	13.32	17.38
500000.0	147.64	15.10	19.78
1000000.0	152.44	15.86	20.81



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EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =     .15618669+01)               THE SAMPLE SIZE N =      22
PROBABILITY PLOT CORRELATION COEFFICIENT =   .95559     ESTIMATED INTERCEPT =    .56776084+02   ESTIMATED SLOPE =    .69233149+01
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ELY,NEVADA (1939-1977)


         THE SAMPLE NUMBER OF OBSERVATIONS =       39.00
         THE SAMPLE MEAN                   =       52.88
         THE SAMPLE STANDARD DEVIATION     =        6.23
         THE SAMPLE MINIMUM                =       41.60
         THE SAMPLE MAXIMUM                =       70.13

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

06/04/39      46.                59.  S                      56.
03/27/40      46.                50. NW                      47.
02/11/41      46.                50.  S                      47.
08/04/42      46.                52.  W                      49.
03/29/43      46.                61.  S                      58.
06/08/44      46.                59.  S                      56.
05/22/45      46.                56.  S                      53.
10/01/46      46.                51.  S                      48.
10/12/47      46.                54. NW                      51.
05/18/48      46.                74.  S                      70.
09/25/49      46.                54.  S                      51.
10/27/50      46.                65.  S                      62.
05/26/51      46.                60. SW                      57.
01/14/52      46.                66. SE                      63.
09/21/53      46.                57.  S                      54.
08/30/54      46.                57.  E                      54.
01/01/55      46.                56.  S                      53.
01/07/56      46.                50. SE                      47.
09/05/57      46.                54.  S                      51.
06/06/58      46.                45. SE                      43.
05/01/59      46.                69.  S                      65.
04/22/60      46.                57.  S                      54.
05/31/61      46.                54. SE                      51.
05/19/62      20.                47.  S                      51.
03/27/63      20.                57.  S                      62.
01/21/64      20.                49. SW                      54.
05/21/65      20.                48.  S                      53.
08/29/66      20.                38. SE                      42.
12/18/67      20.                45. SE                      49.
08/20/68      20.                40.  S                      44.
01/26/69      20.                54. SW                      59.
04/13/70      20.                48. SW                      53.
12/21/71      20.                43. SE                      47.
08/18/72      20.                41. SE                      45.
11/12/73      20.                50. SW                      55.
06/19/74      20.                47. SE                      51.
06/24/75      20.                54. SE                      59.
06/30/76      20.                42.  S                      46.
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11/05/77     20.            47. SE                          51.
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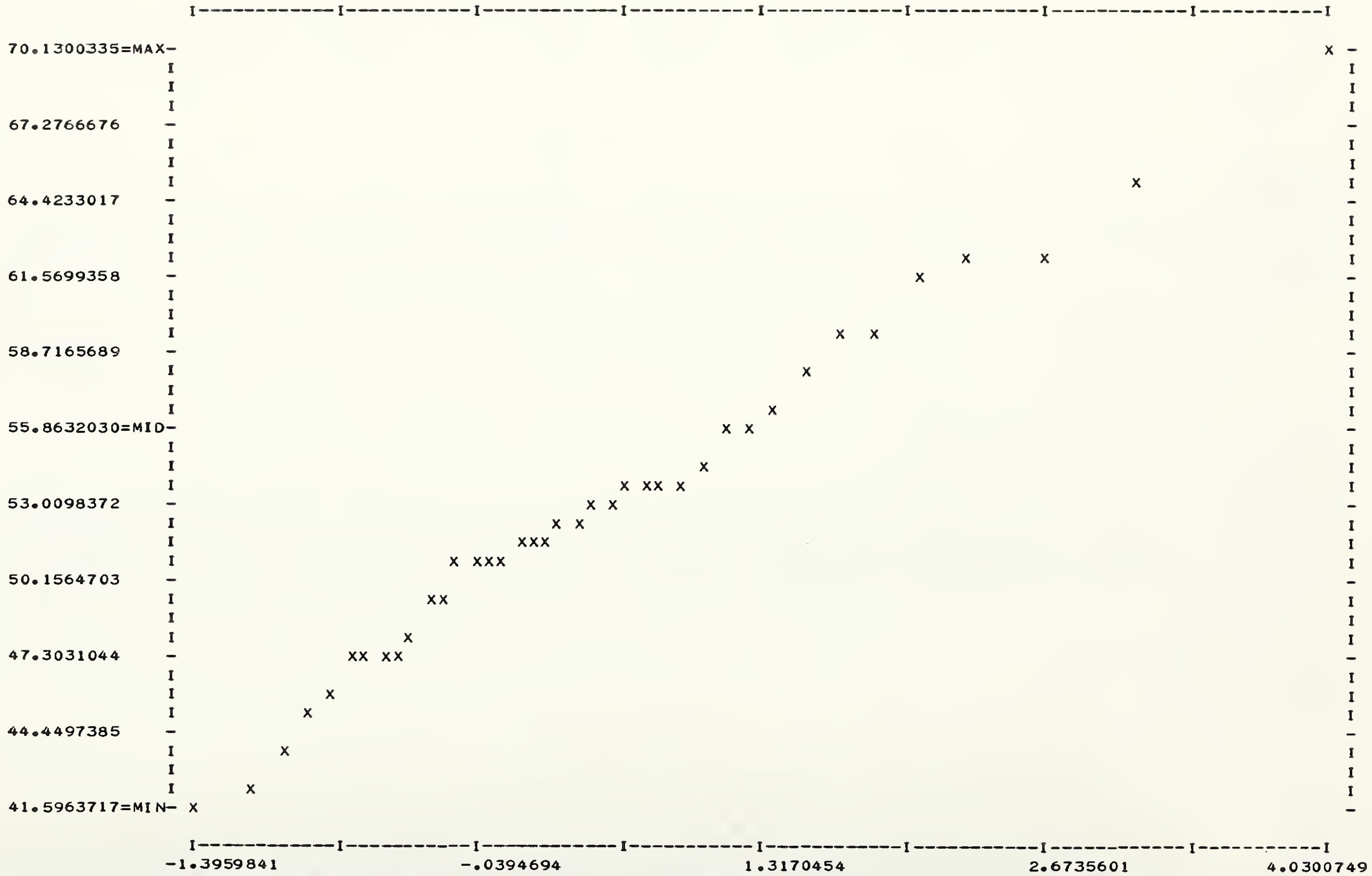
RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	51.91	.91	.92
3.0	54.64	1.12	1.16
4.0	56.39	1.28	1.37
5.0	57.69	1.40	1.54
6.0	58.72	1.51	1.68
7.0	59.57	1.59	1.80
8.0	60.31	1.67	1.91
9.0	60.95	1.74	2.00
10.0	61.52	1.80	2.08
20.0	65.19	2.20	2.63
30.0	67.30	2.44	2.95
39.0	68.66	2.59	3.16
40.0	68.79	2.60	3.18
50.0	69.94	2.74	3.36
60.0	70.88	2.84	3.51
70.0	71.67	2.93	3.63
80.0	72.36	3.01	3.74
90.0	72.96	3.08	3.83
100.0	73.50	3.14	3.91
200.0	77.05	3.55	4.47
300.0	79.12	3.80	4.80
400.0	80.59	3.97	5.03
500.0	81.73	4.10	5.21
600.0	82.66	4.21	5.36
700.0	83.45	4.30	5.48
800.0	84.13	4.38	5.59
900.0	84.73	4.45	5.68
1000.0	85.27	4.51	5.77
2000.0	88.80	4.93	6.33
3000.0	90.87	5.17	6.66
4000.0	92.34	5.34	6.89
5000.0	93.48	5.48	7.07
6000.0	94.41	5.59	7.22
7000.0	95.20	5.68	7.34
8000.0	95.88	5.76	7.45
9000.0	96.48	5.83	7.55
10000.0	97.02	5.89	7.63
50000.0	105.22	6.86	8.94
100000.0	108.76	7.28	9.50
500000.0	116.98	8.25	10.81
1000000.0	120.51	8.67	11.37



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EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =    .15618669+01)              THE SAMPLE SIZE N =      39
PROBABILITY PLOT CORRELATION COEFFICIENT =   .99318     ESTIMATED INTERCEPT =    .50036914+02   ESTIMATED SLOPE =    .51005396+01
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    LAS VEGAS,NEVADA (1965-1977)


        THE SAMPLE NUMBER OF OBSERVATIONS =       13.00
        THE SAMPLE MEAN                   =       54.65
        THE SAMPLE STANDARD DEVIATION     =        7.00
        THE SAMPLE MINIMUM                =       43.79
        THE SAMPLE MAXIMUM                =       70.06


  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                         AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

02/22/65      20.               54. NW                       59.
03/01/66      20.               52. SW                       57.
08/08/67      20.               48. NW                       53.
05/21/68      20.               40. SW                       44.
04/18/69      20.               45.  N                       49.
12/02/70      20.               50. SW                       55.
07/14/71      20.               64. SW                       70.
07/16/72      20.               48. NE                       53.
04/17/73      20.               44. NW                       48.
03/02/74      20.               50. SW                       55.
03/16/75      20.               45.  N                       49.
07/29/76      20.               59. NE                       65.
05/05/77      20.               50. SW                       55.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 13.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	53.40	53.64	1.78	1.78
3.0	56.58	56.88	2.18	2.27
4.0	58.68	58.96	2.49	2.67
5.0	60.28	60.50	2.73	3.00
6.0	61.57	61.72	2.93	3.28
7.0	62.65	62.73	3.10	3.51
8.0	63.60	63.60	3.25	3.71
9.0	64.43	64.36	3.38	3.89
10.0	65.17	65.04	3.50	4.06
13.0	67.04	66.70	3.80	4.46
20.0	70.14	69.39	4.28	5.12
30.0	73.13	71.90	4.74	5.75
40.0	75.29	73.66	5.07	6.20
50.0	77.00	75.03	5.33	6.54
60.0	78.41	76.14	5.54	6.83
70.0	79.62	77.08	5.71	7.07
80.0	80.68	77.89	5.87	7.27
90.0	81.62	78.61	6.00	7.46
100.0	82.47	79.25	6.12	7.62
200.0	88.22	83.46	6.92	8.71
300.0	91.72	85.92	7.39	9.34
400.0	94.27	87.66	7.72	9.79
500.0	96.29	89.01	7.98	10.14
600.0	97.96	90.12	8.19	10.43
700.0	99.40	91.05	8.37	10.67
800.0	100.65	91.86	8.53	10.88
900.0	101.77	92.57	8.67	11.06
1000.0	102.78	93.21	8.79	11.23
2000.0	109.62	97.40	9.60	12.32
3000.0	113.80	99.86	10.07	12.96
4000.0	116.84	101.60	10.40	13.41
5000.0	119.24	102.95	10.67	13.77
6000.0	121.24	104.05	10.88	14.05
7000.0	122.95	104.98	11.06	14.30
8000.0	124.45	105.79	11.22	14.51
9000.0	125.78	106.50	11.35	14.69
10000.0	126.99	107.14	11.48	14.86
50000.0	146.64	116.88	13.36	17.40
100000.0	155.88	121.07	14.18	18.50
500000.0	179.37	130.82	16.07	21.05
1000000.0	190.40	135.01	16.88	22.15

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RENO,NEVADA (1942-1977)

       THE SAMPLE NUMBER OF OBSERVATIONS =       36.00
       THE SAMPLE MEAN                   =       56.54
       THE SAMPLE STANDARD DEVIATION     =        7.95
       THE SAMPLE MINIMUM                =       42.82
       THE SAMPLE MAXIMUM                =       76.62

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

11/14/42      46.              56. SW                       53.
01/21/43      52.              58. SW                       54.
03/03/44      52.              54.  S                       50.
12/04/45      52.              72.  S                       67.
11/22/46      52.              52.  S                       48.
10/20/47      52.              66.  S                       61.
03/23/48      52.              61.  S                       57.
03/19/49      52.              61.  S                       57.
10/29/50      52.              56.  S                       52.
03/05/51      52.              68.  S                       63.
12/05/52      52.              61. SW                       57.
03/10/53      52.              49. SW                       46.
01/17/54      52.              66. SW                       61.
04/25/55      52.              65.  S                       61.
01/04/56      52.              59.  S                       55.
04/14/57      52.              56.  S                       52.
01/12/58      52.              72.  S                       67.
03/30/59      52.              46.  S                       43.
02/08/60      20.              54.  W                       59.
03/14/61      20.              51. SW                       56.
10/13/62      20.              50.  S                       55.
03/29/63      20.              49.  S                       54.
01/01/64      20.              47.  W                       51.
12/28/65      20.              45. SW                       49.
01/04/66      20.              48. SE                       53.
01/20/67      20.              70. SE                       77.
03/12/68      20.              66. SW                       72.
01/12/69      20.              59. SW                       65.
02/16/70      20.              43. SW                       47.
03/25/71      20.              49. SW                       54.
04/12/72      20.              45.  S                       49.
12/29/73      20.              46. NW                       50.
02/28/74      20.              60. SW                       66.
02/12/75      20.              66. SW                       72.
03/24/76      20.              49.  W                       54.
12/15/77      20.              45. SW                       49.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	55.30	1.21	1.22
3.0	58.80	1.49	1.55
4.0	61.04	1.70	1.82
5.0	62.70	1.86	2.05
6.0	64.02	2.00	2.24
7.0	65.12	2.12	2.40
8.0	66.06	2.22	2.53
9.0	66.87	2.31	2.66
10.0	67.60	2.39	2.77
20.0	72.30	2.92	3.50
30.0	75.01	3.24	3.92
36.0	76.22	3.38	4.12
40.0	76.91	3.46	4.23
50.0	78.39	3.63	4.46
60.0	79.59	3.78	4.66
70.0	80.60	3.90	4.82
80.0	81.48	4.00	4.96
90.0	82.26	4.09	5.09
100.0	82.95	4.18	5.20
200.0	87.49	4.72	5.94
300.0	90.14	5.04	6.37
400.0	92.02	5.27	6.68
500.0	93.48	5.45	6.92
600.0	94.68	5.59	7.12
700.0	95.68	5.71	7.28
800.0	96.56	5.82	7.42
900.0	97.32	5.91	7.55
1000.0	98.01	6.00	7.66
2000.0	102.54	6.55	8.41
3000.0	105.19	6.87	8.84
4000.0	107.07	7.10	9.15
5000.0	108.53	7.28	9.39
6000.0	109.72	7.42	9.59
7000.0	110.72	7.55	9.76
8000.0	111.60	7.65	9.90
9000.0	112.37	7.75	10.03
10000.0	113.05	7.83	10.14
50000.0	123.56	9.12	11.88
100000.0	128.09	9.67	12.62
500000.0	138.61	10.97	14.36
1000000.0	143.14	11.52	15.11

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WINNEMUCCA,NEVADA (1950-1977)

      THE SAMPLE NUMBER OF OBSERVATIONS =       28.00
      THE SAMPLE MEAN                   =       50.22
      THE SAMPLE STANDARD DEVIATION     =        7.13
      THE SAMPLE MINIMUM                =       37.22
      THE SAMPLE MAXIMUM                =       62.63

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
           ELEVATION(FT)  AND DIRECTION   (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

03/05/50      34.              63.  W                      63.
05/20/51      34.              61.  N                      61.
12/07/52      34.              60. SW                      60.
03/19/53      34.              50. SW                      50.
07/26/54      34.              47.  W                      47.
12/23/55      34.              61. SW                      61.
01/07/56      34.              56.  W                      56.
07/28/57      34.              56.  W                      56.
02/24/58      34.              56. SW                      56.
07/12/59      34.              40.  E                      40.
05/12/60      34.              57.  W                      57.
05/01/61      34.              47.  W                      47.
04/19/62      20.              43.  W                      47.
06/09/63      34.              57.  W                      57.
12/23/64      34.              52.  W                      52.
12/28/65      34.              47. SW                      47.
10/20/66      20.              38. SW                      42.
12/04/67      20.              38. SW                      42.
09/28/68      20.              38. SW                      42.
01/26/69      20.              42. SW                      46.
02/17/70      20.              51.  W                      56.
12/03/71      20.              42. SW                      46.
06/22/72      20.              34. SW                      37.
12/11/73      20.              47. SW                      51.
03/01/74      20.              50. SW                      55.
11/10/75      20.              37. SW                      41.
03/24/76      20.              44. SW                      48.
03/27/77      20.              45. NW                      49.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	49.16	1.23	1.24
3.0	52.23	1.51	1.57
4.0	54.19	1.72	1.85
5.0	55.65	1.89	2.08
6.0	56.80	2.03	2.27
7.0	57.76	2.15	2.44
8.0	58.58	2.26	2.58
9.0	59.30	2.35	2.70
10.0	59.94	2.43	2.81
20.0	64.06	2.97	3.55
28.0	66.03	3.24	3.92
30.0	66.43	3.29	3.99
40.0	68.10	3.52	4.30
50.0	69.39	3.70	4.54
60.0	70.45	3.84	4.74
70.0	71.33	3.96	4.90
80.0	72.10	4.07	5.05
90.0	72.78	4.16	5.17
100.0	73.39	4.25	5.29
200.0	77.37	4.80	6.04
300.0	79.70	5.13	6.48
400.0	81.34	5.36	6.79
500.0	82.62	5.54	7.04
600.0	83.67	5.68	7.23
700.0	84.55	5.81	7.40
800.0	85.31	5.92	7.55
900.0	85.99	6.01	7.68
1000.0	86.59	6.10	7.79
2000.0	90.56	6.66	8.55
3000.0	92.88	6.99	8.99
4000.0	94.53	7.22	9.31
5000.0	95.81	7.40	9.55
6000.0	96.85	7.55	9.75
7000.0	97.73	7.67	9.92
8000.0	98.50	7.78	10.06
9000.0	99.17	7.88	10.19
10000.0	99.77	7.96	10.31
50000.0	108.99	9.27	12.07
100000.0	112.95	9.84	12.83
500000.0	122.17	11.15	14.60
1000000.0	126.14	11.71	15.37

CONCORD,NEW HAMPSHIRE (1941-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 37.00
THE SAMPLE MEAN = 42.85
THE SAMPLE STANDARD DEVIATION = 8.35
THE SAMPLE MINIMUM = 31.38
THE SAMPLE MAXIMUM = 68.46

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
10/23/41	45.	37. NW	35.
03/03/42	45.	40. NE	38.
12/11/43	45.	47. W	45.
03/28/44	45.	62. NW	59.
04/22/45	45.	52. NW	49.
01/29/46	45.	41. NW	39.
03/03/47	45.	46. NE	44.
12/31/48	45.	42. E	40.
12/29/49	45.	37. W	35.
11/26/50	45.	72. NE	68.
04/26/51	45.	40. W	38.
05/12/52	45.	36. NE	34.
11/07/53	45.	43. NE	41.
08/31/54	45.	56. E	53.
08/05/55	45.	35. NW	33.
09/14/56	45.	42. SW	40.
06/29/57	45.	38. SW	36.
03/21/58	45.	39. NE	37.
01/06/59	45.	39. NW	37.
09/12/60	45.	42. E	40.
11/25/61	45.	33. NW	31.
12/30/62	20.	52. NW	57.
04/22/63	20.	44. NW	48.
12/01/64	20.	32. NW	35.
11/04/65	20.	38. W	42.
03/02/66	20.	38. W	42.
02/16/67	20.	36. W	39.
08/25/68	20.	52. SW	57.
01/01/69	20.	37. NW	41.
01/15/70	20.	42. NW	46.
07/01/71	20.	45. SW	49.
01/19/72	20.	44. NW	48.
01/29/73	20.	32. NW	35.
03/10/74	20.	49. NW	54.
01/30/75	20.	40. NW	44.
05/03/76	20.	36. W	39.
04/03/77	20.	33. W	36.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 9.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	41.11	41.54	1.26	1.26
3.0	44.58	45.20	1.54	1.60
4.0	46.91	47.55	1.76	1.89
5.0	48.70	49.28	1.93	2.12
6.0	50.15	50.66	2.07	2.32
7.0	51.39	51.80	2.19	2.48
8.0	52.46	52.78	2.30	2.63
9.0	53.42	53.64	2.39	2.75
10.0	54.28	54.40	2.47	2.87
20.0	60.08	59.31	3.03	3.62
30.0	63.64	62.14	3.35	4.06
37.0	65.53	63.59	3.52	4.29
40.0	66.25	64.13	3.58	4.38
50.0	68.32	65.67	3.77	4.62
60.0	70.05	66.93	3.91	4.83
70.0	71.54	67.99	4.04	4.99
80.0	72.85	68.90	4.15	5.14
90.0	74.02	69.71	4.24	5.27
100.0	75.08	70.44	4.33	5.39
200.0	82.35	75.18	4.89	6.15
300.0	86.87	77.96	5.22	6.60
400.0	90.20	79.92	5.46	6.92
500.0	92.85	81.45	5.64	7.17
600.0	95.07	82.69	5.79	7.37
700.0	96.98	83.74	5.92	7.54
800.0	98.66	84.66	6.03	7.69
900.0	100.17	85.46	6.12	7.82
1000.0	101.53	86.18	6.21	7.94
2000.0	110.90	90.91	6.78	8.71
3000.0	116.72	93.68	7.12	9.16
4000.0	121.02	95.64	7.35	9.48
5000.0	124.44	97.17	7.54	9.73
6000.0	127.31	98.41	7.69	9.93
7000.0	129.78	99.46	7.82	10.10
8000.0	131.95	100.37	7.93	10.25
9000.0	133.89	101.18	8.02	10.38
10000.0	135.65	101.90	8.11	10.50
50000.0	165.24	112.88	9.44	12.30
100000.0	179.70	117.61	10.02	13.08
500000.0	217.95	128.60	11.36	14.88
1000000.0	236.64	133.33	11.93	15.65

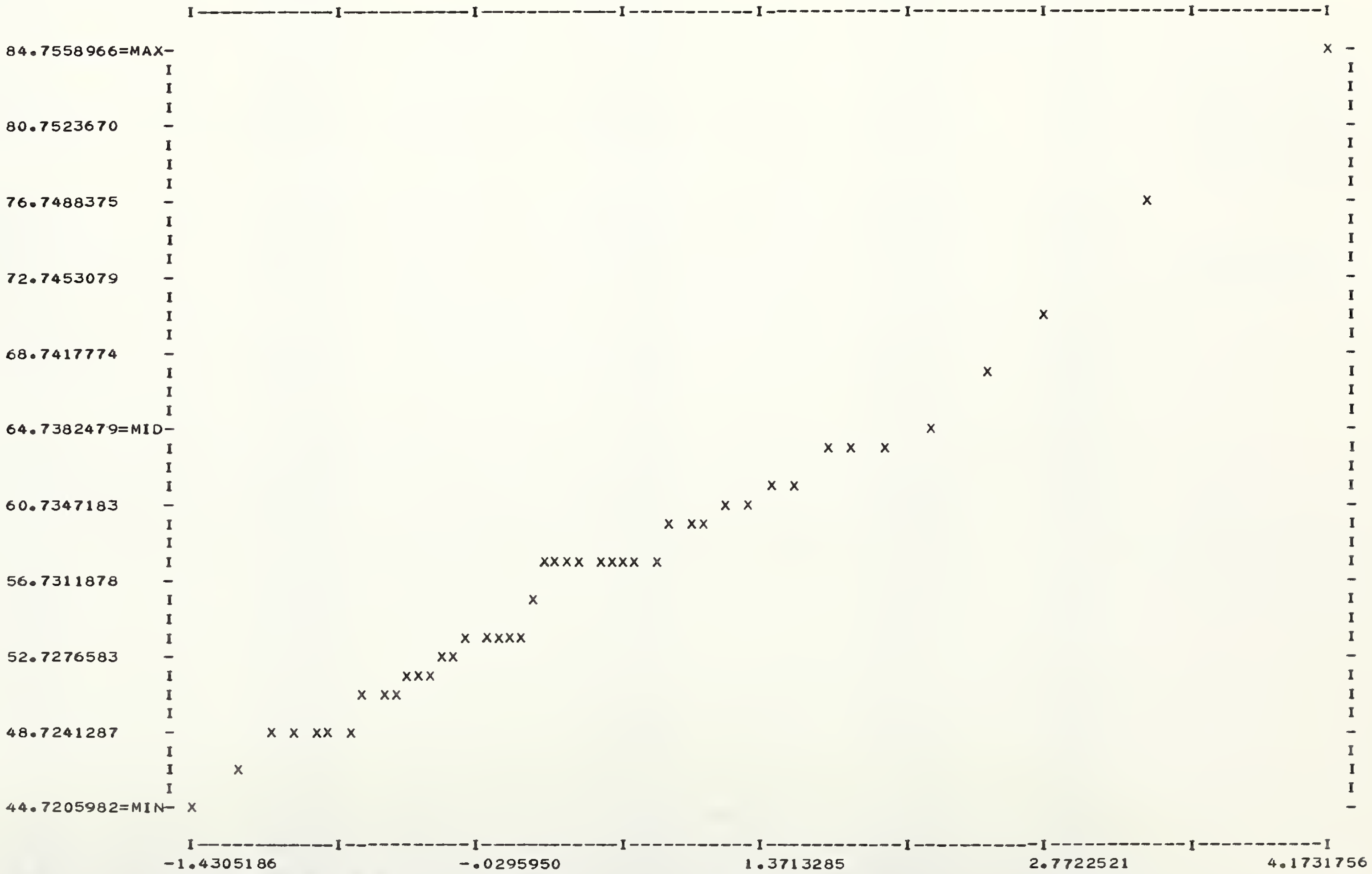
ALBUQUERQUE.NEW MEXICO (1933-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 45.00
THE SAMPLE MEAN = 57.18
THE SAMPLE STANDARD DEVIATION = 7.76
THE SAMPLE MINIMUM = 44.72
THE SAMPLE MAXIMUM = 84.76

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
05/22/33	39.	61. W	59.
03/04/34	39.	50. NW	49.
05/03/35	39.	52. E	51.
12/17/36	39.	54. NW	52.
03/18/37	39.	59. W	57.
06/06/38	39.	54. NW	52.
03/05/39	39.	46. W	45.
05/08/40	48.	57. SE	54.
03/09/41	48.	52. NW	49.
04/29/42	48.	68. S	64.
12/09/43	48.	90. SE	85.
02/09/44	48.	68. NW	64.
07/01/45	48.	68. E	64.
06/20/46	48.	82. SE	77.
05/23/47	48.	52. N	49.
11/17/48	48.	57. NW	54.
01/16/49	48.	61. E	57.
05/04/50	48.	72. W	68.
08/15/51	48.	61. SE	57.
04/29/52	48.	54. S	51.
05/28/53	48.	57. S	54.
03/17/54	48.	52. S	49.
04/12/55	48.	54. NW	51.
02/24/56	48.	65. W	61.
04/07/57	48.	50. W	47.
09/27/58	48.	57. SE	54.
10/31/59	48.	66. N	62.
12/06/60	23.	66. E	70.
07/20/61	23.	54. NW	58.
09/01/62	23.	49. SW	52.
05/01/63	23.	49. NW	52.
03/22/64	23.	52. SW	55.
04/10/65	23.	56. SW	60.
06/20/66	23.	54. SW	58.
12/13/67	23.	57. E	61.
07/02/68	23.	54. E	58.
03/01/69	23.	50. NW	53.
08/08/70	23.	54. NW	58.

10/29/71	23.	58.	S	62.
03/18/72	23.	61.	E	65.
04/18/73	23.	54.	NW	58.
07/04/74	23.	54.	E	58.
02/22/75	23.	56.	E	60.
04/30/76	23.	46.	E	49.
02/22/77	23.	49.	NW	52.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 7.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	55.45	55.96	1.06	1.06
3.0	58.57	59.33	1.30	1.35
4.0	60.69	61.48	1.48	1.59
5.0	62.34	63.08	1.63	1.79
6.0	63.69	64.35	1.75	1.95
7.0	64.84	65.40	1.85	2.09
8.0	65.84	66.31	1.94	2.21
9.0	66.74	67.09	2.02	2.32
10.0	67.55	67.79	2.09	2.42
20.0	73.11	72.32	2.55	3.05
30.0	76.57	74.92	2.83	3.43
40.0	79.14	76.75	3.02	3.69
45.0	80.22	77.50	3.10	3.80
50.0	81.20	78.17	3.17	3.90
60.0	82.93	79.32	3.30	4.07
70.0	84.43	80.30	3.40	4.21
80.0	85.75	81.14	3.50	4.34
90.0	86.94	81.89	3.58	4.44
100.0	88.02	82.55	3.65	4.54
200.0	95.52	86.92	4.12	5.19
300.0	100.25	89.48	4.40	5.57
400.0	103.78	91.29	4.60	5.84
500.0	106.62	92.69	4.76	6.04
600.0	109.01	93.83	4.88	6.21
700.0	111.08	94.80	4.99	6.36
800.0	112.90	95.64	5.08	6.48
900.0	114.55	96.38	5.16	6.59
1000.0	116.04	97.05	5.24	6.69
2000.0	126.43	101.40	5.72	7.34
3000.0	133.00	103.95	6.00	7.72
4000.0	137.90	105.76	6.20	7.99
5000.0	141.84	107.16	6.36	8.20
6000.0	145.16	108.30	6.48	8.38
7000.0	148.03	109.27	6.59	8.52
8000.0	150.57	110.11	6.68	8.65
9000.0	152.84	110.85	6.77	8.76
10000.0	154.92	111.51	6.84	8.86
50000.0	190.76	121.62	7.96	10.37
100000.0	208.93	125.98	8.45	11.03
500000.0	258.79	136.10	9.58	12.55
1000000.0	284.04	140.45	10.06	13.20



EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU = .15618669+01) THE SAMPLE SIZE N = 45
PROBABILITY PLOT CORRELATION COEFFICIENT = .98635 ESTIMATED INTERCEPT = .53658581+02 ESTIMATED SLOPE = .62813579+01

ROSWELL,NEW MEXICO (1947-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 31.00
THE SAMPLE MEAN = 58.21
THE SAMPLE STANDARD DEVIATION = 8.93
THE SAMPLE MINIMUM = 40.24
THE SAMPLE MAXIMUM = 81.60

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
07/10/47	29.	50.	W	51.
02/27/48	29.	61.	W	62.
03/20/49	29.	65.	W	66.
07/15/50	45.	59.	N	56.
04/29/51	45.	61.	SW	58.
02/02/52	53.	65.	NW	60.
04/29/53	53.	75.	W	70.
02/10/54	53.	61.	NW	57.
04/23/55	53.	73.	W	68.
03/06/56	53.	65.	SW	60.
05/31/57	53.	72.	N	67.
04/04/58	53.	69.	W	64.
02/09/59	53.	68.	W	63.
02/09/60	53.	70.	NW	65.
04/11/61	18.	45.	W	50.
03/23/62	18.	50.	NW	56.
06/18/63	18.	59.	SW	66.
01/19/64	18.	43.	W	48.
01/25/65	18.	42.	SW	47.
03/22/66	18.	48.	NW	54.
02/09/67	18.	45.	NW	50.
02/22/68	18.	41.	NW	46.
01/22/69	18.	36.	SW	40.
12/15/70	18.	50.	NW	56.
03/05/71	18.	47.	SW	53.
07/20/72	18.	63.	E	70.
03/13/73	18.	52.	NW	58.
04/02/74	18.	46.	NW	51.
06/23/75	18.	73.	NW	82.
04/30/76	18.	42.	NE	47.
05/31/77	18.	56.	NW	63.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	56.83	1.47	1.47
3.0	60.75	1.80	1.87
4.0	63.25	2.05	2.21
5.0	65.10	2.26	2.48
6.0	66.58	2.42	2.71
7.0	67.80	2.56	2.90
8.0	68.85	2.69	3.07
9.0	69.77	2.80	3.22
10.0	70.58	2.89	3.35
20.0	75.83	3.54	4.23
30.0	78.86	3.92	4.75
31.0	79.10	3.95	4.79
40.0	80.99	4.19	5.12
50.0	82.63	4.40	5.41
60.0	83.98	4.57	5.64
70.0	85.11	4.72	5.84
80.0	86.09	4.85	6.01
90.0	86.95	4.96	6.16
100.0	87.73	5.06	6.30
200.0	92.80	5.72	7.19
300.0	95.77	6.11	7.72
400.0	97.87	6.38	8.09
500.0	99.50	6.60	8.38
600.0	100.83	6.77	8.62
700.0	101.96	6.92	8.82
800.0	102.93	7.05	8.99
900.0	103.79	7.16	9.14
1000.0	104.56	7.26	9.28
2000.0	109.62	7.93	10.18
3000.0	112.58	8.32	10.71
4000.0	114.68	8.60	11.08
5000.0	116.31	8.81	11.37
6000.0	117.64	8.99	11.61
7000.0	118.77	9.14	11.81
8000.0	119.74	9.27	11.99
9000.0	120.60	9.38	12.14
10000.0	121.37	9.48	12.28
50000.0	133.11	11.04	14.38
100000.0	138.17	11.71	15.29
500000.0	149.93	13.28	17.39
1000000.0	154.98	13.95	18.30

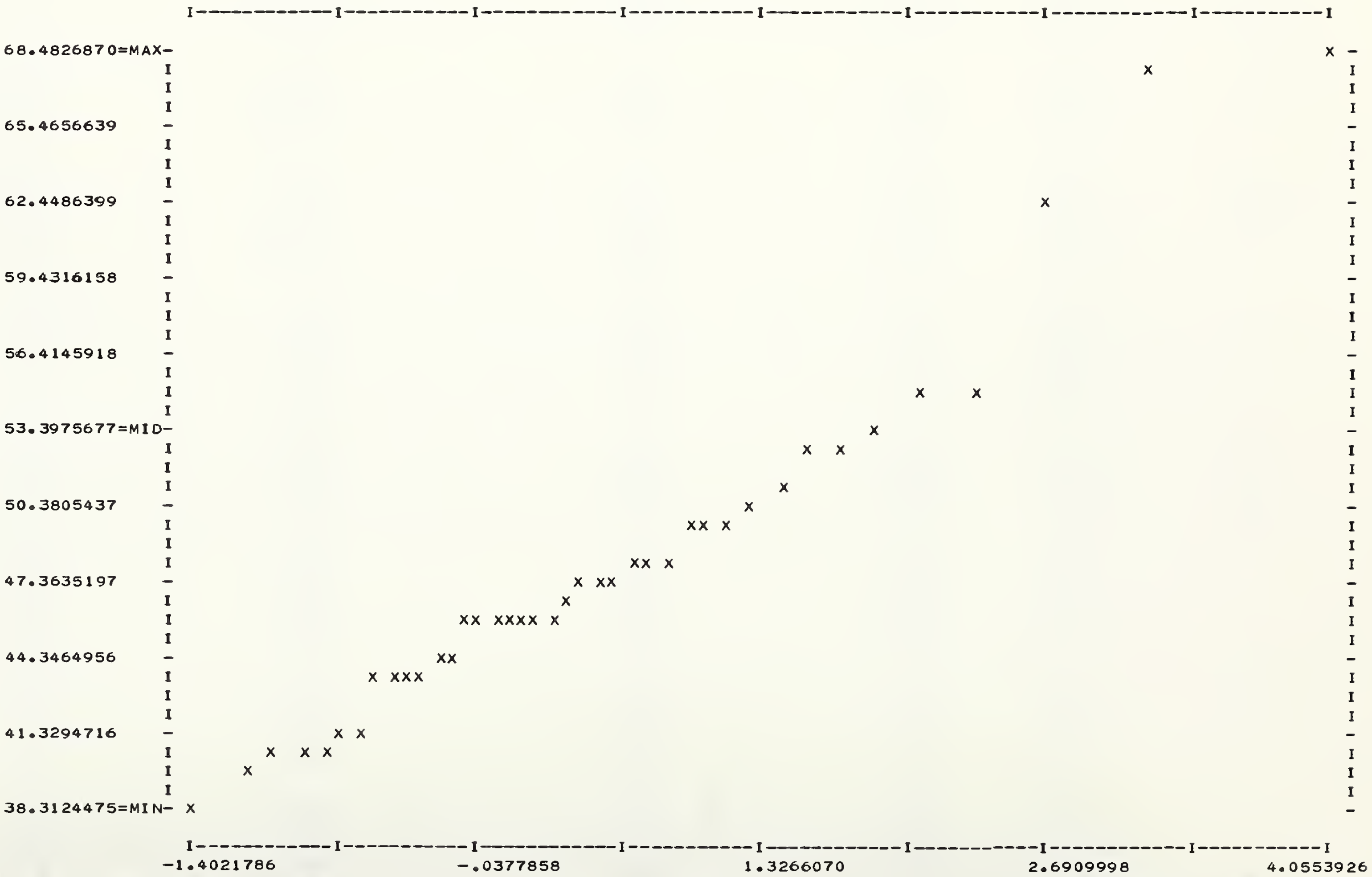
ALBANY, NEW YORK (1938-1977). REFER TO SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 40.00
THE SAMPLE MEAN = 47.89
THE SAMPLE STANDARD DEVIATION = 6.69
THE SAMPLE MINIMUM = 38.31
THE SAMPLE MAXIMUM = 68.48

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
09/21/38	40.	46.	W	45.
01/25/39	40.	50.	NW	48.
04/05/40	40.	42.	NW	41.
03/19/41	40.	55.	W	53.
03/19/42	40.	45.	W	44.
04/05/43	40.	47.	W	46.
12/28/44	40.	54.	W	52.
04/05/45	40.	47.	SW	46.
01/19/46	40.	50.	W	48.
01/21/47	40.	45.	W	44.
02/14/48	40.	43.	W	42.
01/19/49	40.	42.	W	41.
11/25/50	41.	70.	E	68.
01/21/51	41.	52.	NW	50.
01/18/52	41.	57.	W	55.
02/15/53	41.	71.	NW	68.
04/08/54	41.	49.	W	47.
03/27/55	41.	45.	W	43.
02/25/56	41.	43.	NW	41.
01/23/57	41.	49.	W	47.
02/25/58	41.	42.	W	41.
02/19/59	41.	57.	W	55.
02/20/60	41.	46.	W	44.
09/02/61	41.	48.	S	46.
04/25/62	41.	41.	NW	40.
04/04/63	20.	45.	W	49.
01/10/64	20.	42.	W	46.
10/31/65	20.	40.	NW	44.
06/06/66	20.	44.	NW	48.
02/16/67	20.	45.	NW	49.
02/17/68	20.	43.	W	47.
01/08/69	20.	42.	W	46.
04/03/70	20.	42.	W	46.
06/08/71	20.	57.	NW	62.
02/20/72	20.	42.	NW	46.
01/29/73	20.	35.	NW	38.
03/10/74	20.	47.	NW	51.
01/30/75	20.	45.	NW	49.

12/13/76	20.	48. NW	53.
04/08/77	20.	42. NW	46.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 6.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	46.35	46.86	.97	.97
3.0	48.99	49.74	1.19	1.23
4.0	50.81	51.59	1.35	1.46
5.0	52.23	52.95	1.49	1.64
6.0	53.40	54.04	1.60	1.79
7.0	54.40	54.94	1.69	1.91
8.0	55.28	55.72	1.77	2.02
9.0	56.07	56.39	1.84	2.12
10.0	56.78	56.99	1.91	2.21
20.0	61.71	60.86	2.33	2.79
30.0	64.83	63.09	2.58	3.13
40.0	67.16	64.66	2.76	3.38
40.0	67.16	64.66	2.76	3.38
50.0	69.04	65.87	2.90	3.56
60.0	70.63	66.86	3.02	3.72
70.0	72.01	67.70	3.11	3.85
80.0	73.23	68.42	3.20	3.96
90.0	74.33	69.06	3.27	4.06
100.0	75.33	69.63	3.34	4.15
200.0	82.37	73.37	3.77	4.74
300.0	86.88	75.56	4.03	5.09
400.0	90.26	77.11	4.21	5.33
500.0	93.00	78.31	4.35	5.52
600.0	95.31	79.29	4.46	5.68
700.0	97.33	80.12	4.56	5.81
800.0	99.11	80.84	4.65	5.93
900.0	100.72	81.47	4.72	6.03
1000.0	102.18	82.04	4.79	6.12
2000.0	112.49	85.77	5.23	6.71
3000.0	119.09	87.95	5.49	7.06
4000.0	124.05	89.50	5.67	7.31
5000.0	128.07	90.70	5.81	7.50
6000.0	131.46	91.68	5.93	7.66
7000.0	134.41	92.51	6.03	7.79
8000.0	137.03	93.23	6.11	7.90
9000.0	139.39	93.86	6.19	8.00
10000.0	141.54	94.43	6.25	8.10
50000.0	179.52	103.08	7.28	9.48
100000.0	199.29	106.81	7.72	10.08
500000.0	255.11	115.47	8.75	11.47
1000000.0	284.13	119.20	9.20	12.07



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EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =    .15618669+01)                THE SAMPLE SIZE N =     40
PROBABILITY PLOT CORRELATION COEFFICIENT =   .97576     ESTIMATED INTERCEPT =    .44887547+02   ESTIMATED SLOPE =    .53784818+01
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   BINGHAMPTON.NEW YORK (1951-1977)

         THE SAMPLE NUMBER OF OBSERVATIONS =       27.00
         THE SAMPLE MEAN                   =       49.22
         THE SAMPLE STANDARD DEVIATION     =        6.40
         THE SAMPLE MINIMUM                =       38.69
         THE SAMPLE MAXIMUM                =       63.78

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

11/07/51      76.              57. SE                         50.
03/11/52      76.              54. NW                         48.
12/10/53      76.              53.  W                         47.
10/15/54      76.              72.  S                         64.
10/24/55      76.              66.  W                         58.
02/25/56      76.              66. NW                         58.
06/13/57      76.              60. NW                         53.
08/14/58      76.              57.  N                         50.
01/05/59      76.              59. NW                         52.
01/05/60      76.              56.  W                         50.
04/16/61      22.              40.  E                         43.
02/14/62      22.              50. SE                         54.
04/04/63      22.              42.  W                         45.
03/05/64      22.              47. SW                         51.
04/12/65      22.              42.  W                         45.
01/31/66      22.              47.  W                         51.
06/15/67      22.              45. NW                         48.
12/05/68      22.              52.  W                         56.
03/24/69      22.              38. SE                         41.
04/02/70      22.              39.  W                         42.
01/26/71      22.              56. SW                         60.
01/25/72      22.              41.  W                         44.
03/17/73      22.              41.  S                         44.
02/23/74      22.              41.  W                         44.
01/29/75      22.              38.  W                         41.
10/13/76      22.              36. NW                         39.
08/05/77      22.              47.  W                         51.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	48.24	1.13	1.13
3.0	51.08	1.38	1.44
4.0	52.91	1.58	1.70
5.0	54.26	1.73	1.91
6.0	55.33	1.86	2.08
7.0	56.22	1.97	2.23
8.0	56.98	2.06	2.36
9.0	57.65	2.15	2.47
10.0	58.24	2.22	2.57
20.0	62.06	2.72	3.25
27.0	63.69	2.93	3.55
30.0	64.26	3.01	3.65
40.0	65.81	3.22	3.93
50.0	67.01	3.38	4.15
60.0	67.99	3.51	4.33
70.0	68.82	3.63	4.48
80.0	69.53	3.72	4.62
90.0	70.16	3.81	4.73
100.0	70.72	3.89	4.84
200.0	74.42	4.39	5.52
300.0	76.57	4.69	5.93
400.0	78.11	4.90	6.21
500.0	79.29	5.07	6.44
600.0	80.26	5.20	6.62
700.0	81.08	5.31	6.77
800.0	81.79	5.41	6.90
900.0	82.42	5.50	7.02
1000.0	82.98	5.58	7.13
2000.0	86.66	6.09	7.82
3000.0	88.81	6.39	8.22
4000.0	90.34	6.60	8.51
5000.0	91.53	6.77	8.74
6000.0	92.50	6.90	8.92
7000.0	93.31	7.02	9.07
8000.0	94.02	7.12	9.21
9000.0	94.65	7.20	9.32
10000.0	95.21	7.28	9.43
50000.0	103.76	8.48	11.04
100000.0	107.44	9.00	11.74
500000.0	116.00	10.20	13.36
1000000.0	119.68	10.71	14.05

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   BUFFALO,NEW YORK (1944-1977)


         THE SAMPLE NUMBER OF OBSERVATIONS =       34.00
         THE SAMPLE MEAN                   =       53.87
         THE SAMPLE STANDARD DEVIATION     =        7.07
         THE SAMPLE MINIMUM                =       41.60
         THE SAMPLE MAXIMUM                =       78.58

   DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
         ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                         AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

 02/05/44      96.               57. SW                      49.
 05/22/45      96.               62. SW                      54.
 02/14/46      96.               70. SW                      60.
 12/17/47      96.               57. SW                      49.
 03/16/48      96.               66. SW                      57.
 01/19/49      96.               59. SW                      51.
 01/14/50      96.               91. SW                      79.
 03/24/51      96.               66. SW                      57.
 01/15/52      96.               52. SW                      45.
 02/21/53      96.               69. SW                      60.
 10/15/54      96.               63. SW                      54.
 11/16/55      96.               64. SW                      55.
 03/11/56      96.               57. SW                      49.
 04/25/57      96.               67.  W                      58.
 10/10/58      96.               59. SW                      51.
 03/07/59      96.               68.  W                      59.
 01/08/60      20.               47. SW                      51.
 02/19/61      20.               43. SW                      47.
 01/07/62      20.               42. SW                      46.
 03/06/63      20.               52. SW                      57.
 03/05/64      20.               52. SW                      57.
 01/07/65      20.               47. SW                      51.
 11/03/66      20.               43. SW                      47.
 02/16/67      20.               62. SW                      68.
 02/16/68      20.               57. SW                      62.
 05/09/69      20.               44. SW                      48.
 09/26/70      20.               41. SW                      45.
 03/15/71      20.               52. SW                      57.
 01/17/72      20.               48. SW                      53.
 12/06/73      20.               38.  W                      42.
 04/15/74      20.               48.  W                      53.
 02/26/75      20.               47. SW                      51.
 03/27/76      20.               50. SW                      55.
 01/28/77      20.               50. SW                      55.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2, DISTRIBUTION (GAMMA = 8.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	52.37	52.78	1.11	1.11
3.0	55.27	55.86	1.36	1.41
4.0	57.23	57.82	1.55	1.67
5.0	58.74	59.28	1.70	1.87
6.0	59.97	60.44	1.83	2.05
7.0	61.02	61.40	1.94	2.19
8.0	61.93	62.23	2.03	2.32
9.0	62.74	62.95	2.11	2.43
10.0	63.47	63.59	2.19	2.53
20.0	68.46	67.72	2.67	3.20
30.0	71.53	70.09	2.96	3.59
34.0	72.51	70.82	3.05	3.71
40.0	73.80	71.77	3.17	3.87
50.0	75.61	73.06	3.32	4.08
60.0	77.12	74.12	3.45	4.26
70.0	78.43	75.01	3.57	4.41
80.0	79.58	75.78	3.66	4.54
90.0	80.61	76.46	3.75	4.65
100.0	81.54	77.07	3.82	4.76
200.0	87.99	81.06	4.32	5.43
300.0	92.02	83.39	4.61	5.83
400.0	95.01	85.04	4.82	6.11
500.0	97.40	86.32	4.98	6.33
600.0	99.41	87.37	5.11	6.51
700.0	101.14	88.25	5.23	6.66
800.0	102.66	89.02	5.32	6.79
900.0	104.03	89.70	5.41	6.91
1000.0	105.27	90.30	5.48	7.01
2000.0	113.85	94.28	5.99	7.69
3000.0	119.22	96.61	6.28	8.09
4000.0	123.20	98.26	6.49	8.37
5000.0	126.38	99.54	6.66	8.59
6000.0	129.05	100.58	6.79	8.77
7000.0	131.36	101.47	6.90	8.92
8000.0	133.39	102.23	7.00	9.05
9000.0	135.21	102.91	7.09	9.17
10000.0	136.87	103.51	7.16	9.27
50000.0	165.02	112.75	8.34	10.86
100000.0	179.00	116.72	8.85	11.55
500000.0	216.57	125.97	10.03	13.14
1000000.0	235.22	129.94	10.54	13.82

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NEW YORK LA GUARDIA, N.Y. (1947-1977)   CAUTION -- SEE APPENDIX 1

      THE SAMPLE NUMBER OF OBSERVATIONS =       31.00
      THE SAMPLE MEAN                   =       50.25
      THE SAMPLE STANDARD DEVIATION     =        7.23
      THE SAMPLE MINIMUM                =       32.54
      THE SAMPLE MAXIMUM                =       61.39

  DATE     ANEMOMETER    FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                         AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

03/25/47      83.               63. SW                     55.
10/06/48      83.               66. NE                     58.
12/29/49      83.               56. NW                     49.
11/25/50      83.               68. SE                     60.
02/08/51      83.               59. NW                     52.
11/22/52      83.               59.  E                     52.
11/07/53      83.               68.  N                     60.
10/15/54      83.               66. SE                     58.
01/07/55      83.               56.  W                     49.
01/07/56      83.               64.  N                     56.
01/23/57      83.               56. NW                     49.
01/14/58      83.               68. NE                     60.
01/05/59      83.               63. NW                     55.
09/12/60      83.               70. NE                     61.
04/13/61      83.               59. NE                     52.
12/31/62      81.               54. NW                     47.
04/04/63      81.               59.  W                     52.
01/13/64      81.               59. NE                     52.
02/25/65      81.               37.  S                     33.
01/31/66      81.               51.  W                     45.
04/03/67      81.               48. NW                     42.
11/12/68      81.               67. NE                     59.
07/03/69      81.               52.  N                     46.
12/17/70      81.               47.  E                     41.
11/25/71      81.               56. NE                     49.
11/08/72      81.               57. NE                     50.
10/29/73      81.               40. NE                     35.
12/02/74      81.               55. NE                     48.
01/30/75      81.               45.  W                     40.
08/09/76      81.               52. NE                     46.
12/05/77      81.               54. NE                     47.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	49.20	1.19	1.19
3.0	52.20	1.46	1.52
4.0	54.12	1.66	1.79
5.0	55.54	1.83	2.01
6.0	56.68	1.96	2.19
7.0	57.62	2.08	2.35
8.0	58.42	2.18	2.48
9.0	59.12	2.26	2.61
10.0	59.75	2.34	2.71
20.0	63.78	2.87	3.43
30.0	66.09	3.17	3.85
31.0	66.28	3.20	3.88
40.0	67.73	3.39	4.15
50.0	68.99	3.56	4.38
60.0	70.02	3.70	4.57
70.0	70.89	3.82	4.73
80.0	71.65	3.92	4.87
90.0	72.31	4.01	4.99
100.0	72.90	4.10	5.10
200.0	76.80	4.63	5.82
300.0	79.07	4.94	6.25
400.0	80.69	5.17	6.55
500.0	81.94	5.34	6.78
600.0	82.96	5.48	6.98
700.0	83.82	5.60	7.14
800.0	84.57	5.71	7.28
900.0	85.23	5.80	7.40
1000.0	85.82	5.88	7.51
2000.0	89.70	6.42	8.24
3000.0	91.97	6.74	8.67
4000.0	93.59	6.96	8.97
5000.0	94.84	7.13	9.21
6000.0	95.86	7.28	9.40
7000.0	96.72	7.40	9.56
8000.0	97.47	7.50	9.70
9000.0	98.13	7.59	9.83
10000.0	98.72	7.68	9.94
50000.0	107.73	8.94	11.64
100000.0	111.61	9.48	12.38
500000.0	120.63	10.75	14.08
1000000.0	124.51	11.30	14.82

ROCHESTER, N.Y. (1941-1977). REFER TO SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 37.00
THE SAMPLE MEAN = 53.38
THE SAMPLE STANDARD DEVIATION = 5.27
THE SAMPLE MINIMUM = 44.82
THE SAMPLE MAXIMUM = 65.43

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
09/25/41	69.	54.	W	48.
01/02/42	69.	55.	W	49.
03/07/43	69.	59.	S	53.
02/06/44	69.	50.	W	45.
05/22/45	69.	57.	W	51.
02/14/46	69.	66.	W	59.
05/29/47	69.	61.	W	55.
03/16/48	69.	57.	SW	51.
06/21/49	69.	61.	SW	55.
01/14/50	69.	73.	W	65.
01/21/51	69.	57.	W	51.
01/15/52	69.	54.	W	48.
02/21/53	69.	65.	W	58.
03/03/54	60.	62.	W	57.
03/23/55	60.	60.	W	55.
02/25/56	60.	66.	W	60.
06/29/57	60.	54.	SW	49.
06/25/58	60.	57.	W	52.
01/22/59	60.	66.	SW	60.
04/18/60	60.	56.	W	51.
04/26/61	60.	51.	W	47.
05/24/62	60.	54.	SW	49.
09/12/63	20.	49.	W	54.
05/09/64	20.	56.	SW	61.
10/31/65	20.	49.	W	54.
01/31/66	20.	50.	SW	55.
02/16/67	20.	57.	SW	62.
02/22/68	20.	42.	SW	46.
06/27/69	20.	44.	SW	48.
03/26/70	20.	42.	SW	46.
12/11/71	20.	48.	SW	53.
01/25/72	20.	50.	SW	55.
06/06/73	20.	56.	SW	61.
01/27/74	20.	45.	SW	49.
04/19/75	20.	56.	SW	61.
02/19/76	20.	46.	SW	50.
03/30/77	20.	46.	W	50.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	52.56	.79	.80
3.0	54.86	.97	1.01
4.0	56.33	1.11	1.19
5.0	57.42	1.22	1.34
6.0	58.28	1.31	1.46
7.0	59.00	1.38	1.57
8.0	59.62	1.45	1.66
9.0	60.15	1.51	1.74
10.0	60.63	1.56	1.81
20.0	63.72	1.91	2.29
30.0	65.49	2.12	2.57
37.0	66.40	2.22	2.71
40.0	66.74	2.26	2.77
50.0	67.71	2.38	2.92
60.0	68.50	2.47	3.05
70.0	69.16	2.55	3.15
80.0	69.74	2.62	3.25
90.0	70.25	2.68	3.33
100.0	70.70	2.73	3.40
200.0	73.68	3.09	3.89
300.0	75.42	3.30	4.17
400.0	76.66	3.45	4.37
500.0	77.61	3.56	4.53
600.0	78.40	3.66	4.65
700.0	79.06	3.74	4.76
800.0	79.63	3.81	4.86
900.0	80.13	3.87	4.94
1000.0	80.59	3.92	5.01
2000.0	83.56	4.28	5.50
3000.0	85.29	4.49	5.79
4000.0	86.53	4.64	5.99
5000.0	87.48	4.76	6.14
6000.0	88.27	4.86	6.27
7000.0	88.93	4.94	6.38
8000.0	89.50	5.01	6.48
9000.0	90.00	5.07	6.56
10000.0	90.45	5.12	6.63
50000.0	97.35	5.97	7.77
100000.0	100.32	6.33	8.26
500000.0	107.22	7.17	9.40
1000000.0	110.19	7.54	9.89

SYRACUSE,NEW YORK (1941-1977). REFER TO SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 37.00
THE SAMPLE MEAN = 50.27
THE SAMPLE STANDARD DEVIATION = 6.10
THE SAMPLE MINIMUM = 38.34
THE SAMPLE MAXIMUM = 67.23

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
07/28/41	51.	52. NW	49.
06/19/42	57.	59. NW	54.
12/11/43	57.	56. W	51.
03/07/44	57.	49. S	45.
03/31/45	57.	59. SW	54.
11/22/46	57.	56. W	51.
03/25/47	57.	59. SW	54.
04/11/48	57.	54. S	50.
02/17/49	57.	61. W	56.
11/25/50	72.	59. E	53.
07/19/51	72.	47. NW	42.
11/26/52	72.	47. S	42.
12/10/53	72.	47. NW	42.
10/15/54	72.	63. SE	56.
11/16/55	72.	54. W	48.
02/25/56	72.	57. W	51.
04/07/57	72.	52. NW	46.
02/25/58	72.	50. W	45.
03/07/59	72.	50. W	45.
01/02/60	72.	43. S	38.
06/10/61	72.	49. NW	44.
10/23/62	72.	54. W	48.
04/04/63	21.	47. NW	51.
01/25/64	21.	52. S	56.
10/31/65	21.	49. W	53.
01/31/66	21.	55. W	60.
02/16/67	21.	62. W	67.
03/24/68	21.	43. W	47.
06/30/69	21.	47. W	51.
03/26/70	21.	43. W	47.
01/30/71	21.	47. W	51.
01/25/72	21.	49. W	53.
10/14/73	21.	45. W	49.
01/27/74	21.	60. W	65.
02/26/75	21.	43. SW	47.
04/21/76	21.	48. W	52.
01/11/77	21.	44. W	48.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	49.32	.92	.92
3.0	51.99	1.13	1.17
4.0	53.70	1.28	1.38
5.0	54.96	1.41	1.55
6.0	55.97	1.51	1.69
7.0	56.81	1.60	1.81
8.0	57.52	1.68	1.92
9.0	58.15	1.75	2.01
10.0	58.70	1.81	2.09
20.0	62.29	2.21	2.65
30.0	64.35	2.45	2.97
37.0	65.41	2.57	3.14
40.0	65.81	2.62	3.20
50.0	66.93	2.75	3.38
60.0	67.85	2.86	3.53
70.0	68.62	2.95	3.65
80.0	69.29	3.03	3.76
90.0	69.88	3.10	3.85
100.0	70.41	3.16	3.94
200.0	73.87	3.57	4.50
300.0	75.90	3.82	4.82
400.0	77.33	3.99	5.06
500.0	78.45	4.12	5.24
600.0	79.36	4.23	5.39
700.0	80.13	4.32	5.51
800.0	80.79	4.40	5.62
900.0	81.38	4.48	5.71
1000.0	81.90	4.54	5.80
2000.0	85.36	4.96	6.36
3000.0	87.38	5.20	6.69
4000.0	88.81	5.37	6.93
5000.0	89.92	5.51	7.11
6000.0	90.83	5.62	7.26
7000.0	91.60	5.71	7.38
8000.0	92.27	5.79	7.49
9000.0	92.85	5.86	7.59
10000.0	93.38	5.93	7.67
50000.0	101.40	6.90	8.99
100000.0	104.85	7.32	9.56
500000.0	112.88	8.30	10.87
1000000.0	116.33	8.72	11.44

CAPE HATTERAS, N.C. (1912-1956)   CAUTION -- SEE APPENDIX 1 AND SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 45.00
THE SAMPLE MEAN = 57.95
THE SAMPLE STANDARD DEVIATION = 12.42
THE SAMPLE MINIMUM = 42.51
THE SAMPLE MAXIMUM = 102.97

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
11/28/12	50.	54.	NW	51.
09/03/13	50.	71.	SE	66.
02/20/14	50.	56.	N	52.
12/26/15	50.	55.	W	51.
06/03/16	50.	54.	NW	51.
02/05/17	50.	56.	NW	52.
01/15/18	50.	76.	SW	71.
02/10/19	50.	47.	N	44.
11/28/20	50.	47.	N	44.
12/18/21	50.	47.	SW	44.
08/03/22	50.	54.	NW	51.
08/22/23	50.	54.	NW	51.
08/25/24	50.	60.	NW	56.
08/14/25	50.	54.	W	51.
11/16/26	50.	54.	SE	51.
03/02/27	50.	62.	NW	58.
11/11/28	50.	65.	N	61.
03/09/29	50.	52.	N	49.
09/12/30	50.	57.	N	53.
06/08/31	50.	59.	W	55.
03/06/32	50.	68.	W	64.
09/16/33	50.	91.	NW	85.
09/08/34	50.	73.	NW	68.
08/07/35	50.	55.	NW	51.
09/18/36	50.	91.	NW	85.
01/29/37	50.	72.	N	67.
09/21/38	50.	66.	NW	62.
07/14/39	50.	77.	W	72.
01/24/40	50.	66.	NW	62.
05/23/41	50.	56.	NW	52.
08/06/42	50.	59.	N	55.
04/13/43	50.	49.	NW	46.
09/14/44	50.	110.	W	103.
05/11/45	50.	56.	NW	52.
08/12/46	50.	57.	N	53.
03/28/47	47.	52.	W	49.
02/01/48	47.	65.	NE	61.
08/24/49	47.	73.	NW	69.

03/01/50	47.	45.	SW	43.
11/03/51	47.	47.	W	44.
02/27/52	47.	50.	NW	47.
08/13/53	47.	77.	SE	73.
08/30/54	47.	72.	NW	68.
09/19/55	56.	68.	SE	63.
02/28/56	56.	54.	SW	50.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2, DISTRIBUTION (GAMMA = 6.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	55.06	56.01	1.70	1.70
3.0	59.96	61.37	2.08	2.16
4.0	63.34	64.80	2.37	2.55
5.0	65.96	67.34	2.60	2.86
6.0	68.13	69.36	2.80	3.13
7.0	69.99	71.04	2.96	3.35
8.0	71.62	72.48	3.10	3.54
9.0	73.08	73.73	3.23	3.71
10.0	74.41	74.85	3.34	3.87
20.0	83.56	82.04	4.09	4.89
30.0	89.34	86.18	4.53	5.49
40.0	93.67	89.10	4.84	5.91
45.0	95.49	90.30	4.97	6.09
50.0	97.16	91.36	5.08	6.24
60.0	100.10	93.20	5.28	6.51
70.0	102.66	94.75	5.45	6.74
80.0	104.93	96.10	5.59	6.94
90.0	106.97	97.28	5.72	7.11
100.0	108.83	98.34	5.84	7.27
200.0	121.89	105.30	6.60	8.30
300.0	130.24	109.36	7.05	8.91
400.0	136.52	112.24	7.37	9.34
500.0	141.60	114.48	7.61	9.67
600.0	145.89	116.30	7.82	9.95
700.0	149.63	117.84	7.99	10.18
800.0	152.94	119.18	8.13	10.38
900.0	155.92	120.36	8.27	10.55
1000.0	158.64	121.41	8.38	10.71
2000.0	177.75	128.35	9.15	11.75
3000.0	190.00	132.40	9.60	12.36
4000.0	199.21	135.28	9.92	12.79
5000.0	206.66	137.51	10.17	13.13
6000.0	212.95	139.33	10.38	13.40
7000.0	218.43	140.87	10.55	13.64
8000.0	223.29	142.21	10.70	13.84
9000.0	227.66	143.39	10.83	14.01
10000.0	231.65	144.44	10.95	14.17
50000.0	302.12	160.54	12.75	16.60
100000.0	338.80	167.47	13.52	17.65
500000.0	442.35	183.57	15.33	20.08
1000000.0	496.20	190.51	16.11	21.13

CHARLOTTE.N.C. (1951-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 27.00
THE SAMPLE MEAN = 44.68
THE SAMPLE STANDARD DEVIATION = 7.48
THE SAMPLE MINIMUM = 32.79
THE SAMPLE MAXIMUM = 64.58

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
05/11/51	41.	34.	S	33.
05/10/52	41.	44.	SW	42.
06/10/53	41.	41.	NW	40.
12/06/54	58.	57.	NE	52.
03/22/55	58.	46.	SW	42.
04/07/56	58.	52.	SW	48.
06/19/57	58.	57.	NW	52.
06/06/58	58.	56.	NW	51.
07/10/59	58.	50.	NW	46.
01/30/60	58.	56.	NE	51.
02/25/61	20.	49.	SW	54.
07/23/62	20.	59.	NW	65.
03/06/63	20.	33.	SW	36.
03/05/64	20.	34.	SW	37.
02/25/65	20.	38.	SW	42.
02/13/66	20.	37.	SW	41.
03/07/67	20.	35.	SW	38.
12/28/68	20.	38.	SW	42.
06/23/69	20.	37.	SW	41.
04/02/70	20.	34.	SW	37.
03/15/71	20.	47.	SW	51.
07/26/72	20.	34.	SW	37.
03/17/73	20.	34.	SW	37.
02/22/74	20.	36.	SW	39.
12/31/75	20.	45.	SW	49.
07/15/76	20.	45.	NW	49.
03/18/77	20.	49.	SW	54.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	43.55	1.32	1.32
3.0	46.82	1.62	1.68
4.0	48.92	1.84	1.98
5.0	50.47	2.02	2.23
6.0	51.70	2.17	2.43
7.0	52.73	2.30	2.60
8.0	53.60	2.41	2.75
9.0	54.37	2.51	2.89
10.0	55.05	2.60	3.01
20.0	59.44	3.18	3.80
27.0	61.32	3.43	4.14
30.0	61.97	3.52	4.26
40.0	63.75	3.76	4.60
50.0	65.13	3.95	4.85
60.0	66.25	4.10	5.06
70.0	67.20	4.24	5.24
80.0	68.02	4.35	5.39
90.0	68.74	4.45	5.53
100.0	69.39	4.54	5.65
200.0	73.64	5.13	6.46
300.0	76.12	5.48	6.93
400.0	77.88	5.73	7.26
500.0	79.24	5.92	7.52
600.0	80.35	6.08	7.73
700.0	81.29	6.21	7.91
800.0	82.11	6.32	8.07
900.0	82.83	6.43	8.20
1000.0	83.47	6.52	8.33
2000.0	87.71	7.12	9.14
3000.0	90.18	7.47	9.61
4000.0	91.94	7.72	9.95
5000.0	93.30	7.91	10.21
6000.0	94.41	8.07	10.42
7000.0	95.35	8.20	10.60
8000.0	96.17	8.32	10.76
9000.0	96.89	8.42	10.90
10000.0	97.53	8.51	11.02
50000.0	107.35	9.91	12.90
100000.0	111.59	10.51	13.72
500000.0	121.42	11.92	15.61
1000000.0	125.65	12.52	16.42

GREENSBORO,N.C. (1930-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 48.00
THE SAMPLE MEAN = 42.33
THE SAMPLE STANDARD DEVIATION = 7.55
THE SAMPLE MINIMUM = 31.32
THE SAMPLE MAXIMUM = 66.77

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
06/24/30	56.	38. W	35.
06/21/31	56.	52. NW	48.
07/14/32	56.	63. N	58.
03/07/33	56.	38. SW	35.
07/26/34	56.	54. NW	50.
03/23/35	56.	49. N	45.
07/25/36	56.	50. W	46.
04/24/37	56.	40. E	37.
05/23/38	56.	38. SW	35.
06/08/39	56.	42. NW	39.
05/26/40	56.	59. SW	54.
12/23/41	56.	40. SE	37.
03/09/42	56.	42. SW	39.
04/13/43	56.	41. NW	38.
10/20/44	56.	38. NE	35.
12/05/45	56.	36. NE	33.
02/25/46	56.	34. NW	31.
03/25/47	56.	42. W	39.
01/24/48	56.	39. NE	36.
05/26/49	56.	40. NW	37.
05/25/50	56.	42. NE	39.
02/01/51	56.	43. SW	40.
07/30/52	56.	45. NW	41.
04/30/53	56.	42. W	39.
12/30/54	56.	45. S	41.
04/24/55	56.	42. W	39.
02/25/56	56.	51. W	47.
08/01/57	56.	42. NE	39.
06/14/58	56.	39. SE	36.
01/21/59	56.	36. SW	33.
10/03/60	56.	43. N	40.
02/25/61	20.	43. SW	47.
04/13/62	20.	38. W	42.
03/19/63	20.	38. NW	42.
03/30/64	20.	42. NW	46.
05/12/65	20.	48. NW	53.
02/13/66	20.	40. SW	44.
05/29/67	20.	61. NW	67.

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12/28/68      20.              39. SW              43.
06/24/69      20.              40. SW              44.
04/23/70      20.              38.  W              42.
01/26/71      20.              43. NW              47.
02/19/72      20.              34. NW              37.
04/09/73      20.              42. SW              46.
02/22/74      20.              40. SW              44.
04/03/75      20.              39. NW              43.
07/15/76      20.              60. NW              66.
08/23/77      20.              39. SE              43.
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RETURN PERIOD    PREDICTED EXTREME WIND        PREDICTED EXTREME WIND     ESTIMATED      ESTIMATED
 (IN YEARS)       BASED ON OPTIMAL              BASED ON                  STAN. DEV.     STAN. DEV.
                EXTREME VALUE TYPE 2.        EXTREME VALUE TYPE 1       SAMPL. ERROR   SAMPL. ERROR
                    DISTRIBUTION                DISTRIBUTION            CRAMER-RAO     METH. OF MOM.
                (GAMMA =       6.00000)
      2.0              40.57                        41.14                   1.00           1.00
      3.0              43.53                        44.40                   1.22           1.27
      4.0              45.57                        46.48                   1.39           1.50
      5.0              47.16                        48.02                   1.53           1.69
      6.0              48.47                        49.25                   1.64           1.84

      7.0              49.60                        50.27                   1.74           1.97
      8.0              50.58                        51.14                   1.82           2.08
      9.0              51.47                        51.90                   1.90           2.19
     10.0              52.27                        52.58                   1.96           2.28
     20.0              57.80                        56.95                   2.40           2.88

     30.0              61.29                        59.46                   2.66           3.23
     40.0              63.91                        61.24                   2.85           3.48
     48.0              65.63                        62.36                   2.96           3.64
     50.0              66.02                        62.61                   2.99           3.67
     60.0              67.80                        63.72                   3.11           3.83

     70.0              69.34                        64.67                   3.21           3.97
     80.0              70.72                        65.48                   3.29           4.08
     90.0              71.95                        66.20                   3.37           4.19
    100.0              73.07                        66.85                   3.44           4.28
    200.0              80.97                        71.07                   3.88           4.89

    300.0              86.02                        73.54                   4.15           5.24
    400.0              89.81                        75.29                   4.33           5.49
    500.0              92.88                        76.64                   4.48           5.69
    600.0              95.48                        77.75                   4.60           5.85
    700.0              97.73                        78.69                   4.70           5.99

    800.0              99.74                        79.50                   4.79           6.11
    900.0             101.54                        80.21                   4.86           6.21
   1000.0             103.18                        80.85                   4.93           6.30
   2000.0             114.74                        85.06                   5.39           6.91
   3000.0             122.14                        87.52                   5.65           7.27

   4000.0             127.70                        89.27                   5.84           7.53
   5000.0             132.21                        90.63                   5.99           7.73
   6000.0             136.02                        91.73                   6.11           7.89
   7000.0             139.33                        92.67                   6.21           8.02
   8000.0             142.26                        93.48                   6.29           8.14

   9000.0             144.91                        94.19                   6.37           8.25
  10000.0             147.32                        94.83                   6.44           8.34
  50000.0             189.92                       104.61                   7.50           9.77
 100000.0             212.09                       108.81                   7.96          10.38
 500000.0             274.68                       118.59                   9.02          11.81

1000000.0             307.23                       122.80                   9.48          12.43
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WILMINGTON, N.C. (1952-1977) CAUTION -- SEE APPENDIX 1

THE SAMPLE NUMBER OF OBSERVATIONS = 26.00
THE SAMPLE MEAN = 49.87
THE SAMPLE STANDARD DEVIATION = 10.91
THE SAMPLE MINIMUM = 39.41
THE SAMPLE MAXIMUM = 84.26

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
06/23/52	43.	54.	NW	52.
02/15/53	43.	65.	E	62.
10/15/54	43.	65.	E	62.
08/11/55	43.	72.	NE	69.
02/25/56	43.	66.	SW	63.
04/05/57	43.	44.	SW	42.
09/27/58	43.	88.	N	84.
06/02/59	43.	45.	SW	43.
09/11/60	43.	53.	NW	51.
04/12/61	43.	48.	SW	46.
11/26/62	43.	59.	N	56.
03/06/63	20.	43.	SW	47.
01/20/64	20.	50.	W	55.
04/12/65	20.	37.	W	41.
02/13/66	20.	47.	SW	51.
11/24/67	20.	45.	W	49.
01/13/68	20.	36.	SE	39.
03/09/69	20.	38.	W	42.
04/02/70	20.	44.	SW	48.
12/18/71	20.	40.	NW	44.
02/03/72	20.	37.	SW	41.
02/10/73	20.	42.	N	46.
06/27/74	20.	38.	NE	42.
04/19/75	20.	36.	SW	39.
02/01/76	20.	38.	SW	42.
04/05/77	20.	37.	SW	41.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2, DISTRIBUTION (GAMMA = 4.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	47.03	48.22	1.96	1.96
3.0	51.26	53.00	2.40	2.50
4.0	54.27	56.06	2.74	2.94
5.0	56.68	58.32	3.01	3.31
6.0	58.71	60.12	3.23	3.61
7.0	60.47	61.62	3.42	3.87
8.0	62.04	62.89	3.58	4.09
9.0	63.45	64.01	3.73	4.29
10.0	64.75	65.01	3.86	4.47
20.0	74.05	71.42	4.72	5.64
26.0	77.97	73.81	5.05	6.09
30.0	80.21	75.11	5.23	6.34
40.0	84.95	77.71	5.59	6.83
50.0	88.86	79.72	5.87	7.21
60.0	92.21	81.36	6.10	7.52
70.0	95.17	82.75	6.29	7.79
80.0	97.82	83.94	6.46	8.02
90.0	100.23	85.00	6.61	8.22
100.0	102.45	85.94	6.75	8.40
200.0	118.57	92.14	7.63	9.59
300.0	129.37	95.76	8.14	10.29
400.0	137.72	98.33	8.51	10.79
500.0	144.62	100.32	8.79	11.17
600.0	150.55	101.94	9.03	11.49
700.0	155.78	103.32	9.23	11.76
800.0	160.47	104.51	9.40	11.99
900.0	164.74	105.56	9.55	12.19
1000.0	168.67	106.50	9.68	12.37
2000.0	197.27	112.68	10.57	13.58
3000.0	216.45	116.29	11.09	14.28
4000.0	231.28	118.85	11.46	14.78
5000.0	243.54	120.84	11.75	15.17
6000.0	254.08	122.47	11.99	15.48
7000.0	263.37	123.84	12.19	15.75
8000.0	271.72	125.03	12.36	15.98
9000.0	279.31	126.08	12.51	16.19
10000.0	286.30	127.02	12.65	16.37
50000.0	419.42	141.36	14.72	19.17
100000.0	495.45	147.54	15.62	20.38
500000.0	732.42	161.89	17.71	23.19
1000000.0	867.67	168.07	18.60	24.40

BISMARCK,N.D. (1940-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 38.00
THE SAMPLE MEAN = 58.30
THE SAMPLE STANDARD DEVIATION = 5.57
THE SAMPLE MINIMUM = 49.26
THE SAMPLE MAXIMUM = 68.94

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
06/02/40	43.	57. NW	55.
03/15/41	43.	65. NW	62.
07/07/42	43.	66. NW	63.
07/12/43	43.	72. W	69.
08/08/44	43.	72. S	69.
05/06/45	43.	61. NW	58.
07/31/46	43.	72. W	69.
11/24/47	43.	65. NW	62.
01/15/48	43.	65. NW	62.
07/31/49	43.	63. N	60.
03/07/50	43.	56. N	54.
03/05/51	43.	57. W	55.
06/10/52	43.	56. E	54.
06/14/53	43.	66. NW	63.
06/27/54	43.	65. E	62.
04/20/55	43.	63. W	60.
12/10/56	43.	61. NW	58.
07/06/57	43.	59. SW	56.
11/25/58	43.	67. NW	64.
09/08/59	43.	66. NW	63.
05/25/60	43.	66. NW	63.
09/02/61	43.	57. W	55.
01/06/62	20.	50. N	55.
04/16/63	20.	56. SW	61.
06/08/64	20.	52. NE	57.
05/01/65	20.	52. NW	57.
03/04/66	20.	52. NW	57.
05/07/67	20.	52. NW	57.
12/04/68	20.	46. NW	50.
05/09/69	20.	52. N	57.
02/04/70	20.	50. NW	55.
04/10/71	20.	45. NW	49.
02/17/72	20.	59. NW	65.
12/08/73	20.	45. NW	49.
05/01/74	20.	45. W	49.
01/11/75	20.	54. NW	59.
02/02/76	20.	47. NW	51.
05/28/77	20.	45. SW	49.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	57.45	.83	.83
3.0	59.84	1.01	1.05
4.0	61.36	1.16	1.24
5.0	62.49	1.27	1.40
6.0	63.39	1.36	1.53
7.0	64.13	1.44	1.63
8.0	64.77	1.51	1.73
9.0	65.33	1.58	1.81
10.0	65.83	1.63	1.89
20.0	69.03	1.99	2.39
30.0	70.87	2.21	2.68
38.0	71.93	2.33	2.85
40.0	72.17	2.36	2.89
50.0	73.17	2.48	3.05
60.0	73.99	2.58	3.18
70.0	74.68	2.66	3.29
80.0	75.28	2.73	3.39
90.0	75.80	2.79	3.47
100.0	76.27	2.85	3.55
200.0	79.37	3.22	4.05
300.0	81.17	3.44	4.35
400.0	82.45	3.60	4.56
500.0	83.45	3.72	4.72
600.0	84.26	3.82	4.86
700.0	84.94	3.90	4.97
800.0	85.54	3.97	5.07
900.0	86.06	4.03	5.15
1000.0	86.53	4.09	5.23
2000.0	89.61	4.47	5.74
3000.0	91.42	4.69	6.03
4000.0	92.70	4.84	6.25
5000.0	93.69	4.97	6.41
6000.0	94.50	5.07	6.54
7000.0	95.18	5.15	6.66
8000.0	95.78	5.22	6.75
9000.0	96.30	5.29	6.84
10000.0	96.77	5.34	6.92
50000.0	103.93	6.22	8.10
100000.0	107.01	6.60	8.61
500000.0	114.17	7.48	9.80
1000000.0	117.25	7.86	10.31

FARGO,N.D. (1942-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 36.00
THE SAMPLE MEAN = 59.35
THE SAMPLE STANDARD DEVIATION = 11.01
THE SAMPLE MINIMUM = 43.45
THE SAMPLE MAXIMUM = 100.46

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
04/27/42	47.	65.	N	61.
06/24/43	47.	66.	NW	62.
05/03/44	47.	50.	N	47.
05/07/45	47.	46.	W	43.
06/28/46	47.	66.	W	62.
01/14/47	47.	57.	W	54.
07/29/48	47.	54.	NW	51.
07/28/49	47.	48.	W	45.
06/22/50	47.	66.	NW	62.
08/01/51	47.	60.	N	57.
07/01/52	47.	60.	SE	57.
05/29/53	47.	60.	SW	57.
06/07/54	86.	91.	SW	79.
08/03/55	86.	71.	NW	62.
11/25/56	86.	66.	N	58.
06/22/57	86.	60.	N	52.
07/26/58	86.	56.	W	49.
06/09/59	86.	115.	NW	100.
09/01/60	86.	88.	N	77.
06/28/61	20.	59.	SW	65.
04/08/62	20.	60.	W	66.
04/03/63	20.	52.	NW	57.
04/13/64	20.	67.	NW	73.
07/29/65	20.	60.	S	66.
10/22/66	20.	48.	W	53.
01/16/67	20.	56.	N	61.
01/11/68	20.	62.	SE	68.
03/28/69	20.	41.	N	45.
02/01/70	20.	51.	NW	56.
10/18/71	20.	45.	SE	49.
01/24/72	20.	48.	NW	53.
10/11/73	20.	52.	S	57.
07/13/74	20.	50.	NW	55.
01/11/75	20.	56.	NW	61.
06/28/76	20.	59.	W	65.
11/09/77	20.	47.	N	51.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2, DISTRIBUTION (GAMMA = 5.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	56.68	57.66	1.68	1.68
3.0	60.96	62.42	2.06	2.14
4.0	63.94	65.47	2.35	2.53
5.0	66.29	67.72	2.58	2.84
6.0	68.25	69.52	2.77	3.10
7.0	69.93	71.01	2.93	3.32
8.0	71.42	72.28	3.07	3.51
9.0	72.75	73.40	3.20	3.68
10.0	73.97	74.39	3.31	3.83
20.0	82.49	80.78	4.05	4.84
30.0	87.98	84.46	4.48	5.43
36.0	90.59	86.10	4.68	5.70
40.0	92.14	87.05	4.79	5.85
50.0	95.52	89.05	5.03	6.18
60.0	98.39	90.69	5.23	6.45
70.0	100.90	92.07	5.40	6.68
80.0	103.14	93.26	5.54	6.87
90.0	105.16	94.31	5.67	7.05
100.0	107.00	95.25	5.78	7.20
200.0	120.15	101.43	6.54	8.22
300.0	128.73	105.04	6.98	8.82
400.0	135.24	107.60	7.30	9.25
500.0	140.56	109.58	7.54	9.58
600.0	145.08	111.20	7.74	9.85
700.0	149.03	112.57	7.91	10.08
800.0	152.56	113.76	8.06	10.28
900.0	155.74	114.80	8.19	10.45
1000.0	158.66	115.74	8.30	10.61
2000.0	179.45	121.90	9.06	11.64
3000.0	193.01	125.50	9.51	12.24
4000.0	203.33	128.05	9.83	12.67
5000.0	211.75	130.03	10.08	13.00
6000.0	218.91	131.65	10.28	13.28
7000.0	225.17	133.02	10.45	13.51
8000.0	230.76	134.21	10.60	13.70
9000.0	235.81	135.25	10.73	13.88
10000.0	240.43	136.19	10.84	14.04
50000.0	324.55	150.48	12.62	16.44
100000.0	370.00	156.64	13.39	17.48
500000.0	503.47	170.94	15.18	19.89
1000000.0	575.53	177.09	15.95	20.92

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    WILLISTON,N.D. (1962-1977)

         THE SAMPLE NUMBER OF OBSERVATIONS =      16.00
         THE SAMPLE MEAN                   =      56.46
         THE SAMPLE STANDARD DEVIATION     =       6.57
         THE SAMPLE MINIMUM                =      47.07
         THE SAMPLE MAXIMUM                =      69.26

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
         ELEVATION(FT)    AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

10/15/62      35.                  57.  N                     56.
07/05/63      35.                  63. NW                     62.
01/17/64      35.                  70. NW                     69.
02/20/65      35.                  66. NW                     65.
07/01/66      35.                  64. NW                     63.
03/31/67      35.                  52. NW                     51.
01/05/68      20.                  47. NW                     51.
05/27/69      20.                  46. NW                     50.
02/03/70      20.                  56. NW                     61.
07/10/71      20.                  50. SE                     55.
02/17/72      20.                  52. NW                     57.
12/08/73      20.                  51. SW                     56.
02/27/74      20.                  54.  W                     59.
10/04/75      20.                  43.  W                     47.
02/01/76      20.                  43. NW                     47.
03/29/77      20.                  47. NE                     51.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	55.49	1.50	1.51
3.0	58.49	1.84	1.91
4.0	60.41	2.10	2.26
5.0	61.83	2.31	2.54
6.0	62.96	2.48	2.77
7.0	63.90	2.62	2.97
8.0	64.70	2.75	3.14
9.0	65.40	2.86	3.29
10.0	66.02	2.96	3.43
16.0	68.76	3.41	4.04
20.0	70.05	3.62	4.33
30.0	72.36	4.01	4.86
40.0	74.00	4.29	5.24
50.0	75.26	4.50	5.53
60.0	76.29	4.68	5.77
70.0	77.16	4.83	5.97
80.0	77.91	4.96	6.15
90.0	78.57	5.07	6.30
100.0	79.16	5.17	6.44
200.0	83.05	5.85	7.36
300.0	85.32	6.25	7.89
400.0	86.93	6.53	8.28
500.0	88.18	6.75	8.57
600.0	89.20	6.93	8.81
700.0	90.07	7.08	9.02
800.0	90.81	7.21	9.20
900.0	91.47	7.32	9.35
1000.0	92.06	7.43	9.49
2000.0	95.94	8.11	10.41
3000.0	98.21	8.51	10.95
4000.0	99.81	8.79	11.34
5000.0	101.06	9.02	11.64
6000.0	102.08	9.20	11.88
7000.0	102.94	9.35	12.08
8000.0	103.69	9.48	12.26
9000.0	104.35	9.60	12.42
10000.0	104.94	9.70	12.56
50000.0	113.94	11.30	14.71
100000.0	117.81	11.98	15.64
500000.0	126.82	13.58	17.79
1000000.0	130.69	14.27	18.72

CLEVELAND,OHIO (1942-1976)

THE SAMPLE NUMBER OF OBSERVATIONS = 35.00
THE SAMPLE MEAN = 52.67
THE SAMPLE STANDARD DEVIATION = 6.56
THE SAMPLE MINIMUM = 40.50
THE SAMPLE MAXIMUM = 68.52

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
03/09/42	54.	56. SW	52.
01/19/43	54.	48. SW	44.
02/23/44	54.	57. SW	53.
02/22/45	54.	59. SW	55.
02/14/46	54.	65. SW	60.
03/25/47	54.	57. NW	53.
03/19/48	54.	74. W	69.
05/19/49	56.	56. SW	52.
01/14/50	56.	59. SW	54.
04/28/51	56.	65. W	60.
06/08/52	56.	56. W	52.
03/04/53	56.	63. W	58.
04/07/54	56.	58. SW	53.
03/22/55	56.	68. SW	63.
02/08/56	88.	65. W	57.
05/14/57	88.	68. SW	59.
04/24/58	88.	59. SW	51.
03/15/59	88.	70. SW	61.
09/01/60	20.	42. N	46.
02/25/61	20.	43. NW	47.
03/06/62	20.	38. N	42.
08/03/63	20.	57. S	62.
03/05/64	20.	48. SW	53.
07/09/65	20.	43. W	47.
03/23/66	20.	40. SW	44.
02/15/67	20.	53. W	58.
12/05/68	20.	40. SW	44.
07/04/69	20.	40. N	44.
03/26/70	20.	45. SW	49.
12/15/71	20.	49. SW	54.
07/18/72	20.	47. SW	51.
06/04/73	20.	37. SW	41.
05/11/74	20.	50. W	55.
04/19/75	20.	45. SW	49.
02/18/76	20.	49. SW	54.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	51.66	1.02	1.02
3.0	54.51	1.24	1.29
4.0	56.34	1.42	1.53
5.0	57.69	1.56	1.72
6.0	58.76	1.67	1.87
7.0	59.65	1.77	2.01
8.0	60.42	1.86	2.12
9.0	61.09	1.93	2.23
10.0	61.68	2.00	2.32
20.0	65.51	2.45	2.93
30.0	67.71	2.71	3.29
35.0	68.54	2.81	3.42
40.0	69.26	2.90	3.54
50.0	70.46	3.04	3.74
60.0	71.44	3.16	3.90
70.0	72.26	3.26	4.04
80.0	72.98	3.35	4.16
90.0	73.61	3.43	4.26
100.0	74.17	3.50	4.36
200.0	77.87	3.95	4.97
300.0	80.03	4.22	5.34
400.0	81.56	4.41	5.59
500.0	82.75	4.56	5.79
600.0	83.72	4.68	5.96
700.0	84.54	4.78	6.10
800.0	85.25	4.87	6.22
900.0	85.88	4.95	6.32
1000.0	86.44	5.02	6.42
2000.0	90.13	5.48	7.04
3000.0	92.28	5.75	7.41
4000.0	93.81	5.95	7.66
5000.0	95.00	6.09	7.87
6000.0	95.97	6.22	8.03
7000.0	96.79	6.32	8.17
8000.0	97.50	6.41	8.29
9000.0	98.12	6.49	8.40
10000.0	98.69	6.56	8.49
50000.0	107.24	7.64	9.94
100000.0	110.93	8.10	10.57
500000.0	119.49	9.18	12.03
1000000.0	123.18	9.65	12.65

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COLUMBUS,OHIO (1952-1977)

       THE SAMPLE NUMBER OF OBSERVATIONS =      26.00
       THE SAMPLE MEAN                   =      49.38
       THE SAMPLE STANDARD DEVIATION     =       6.61
       THE SAMPLE MINIMUM                =      39.41
       THE SAMPLE MAXIMUM                =      61.30

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

11/21/52      46.               61.  N                        58.
07/02/53      46.               43. NW                        41.
03/28/54      46.               52.  S                        49.
03/11/55      46.               63. NW                        60.
02/25/56      46.               57.  W                        54.
05/18/57      46.               48.  W                        45.
08/14/58      46.               42.  N                        40.
01/21/59     128.               56.  W                        47.
02/22/60      20.               42.  W                        46.
04/28/61      20.               40. NW                        44.
01/07/62      20.               38. SW                        42.
03/20/63      20.               44.  W                        48.
05/24/64      20.               50. NW                        55.
11/27/65      20.               47.  W                        51.
06/28/66      20.               47. NW                        51.
02/16/67      20.               54.  W                        59.
12/28/68      20.               42.  W                        46.
11/30/69      20.               36. SW                        39.
04/02/70      20.               56.  W                        61.
12/15/71      20.               47. SW                        51.
07/09/72      20.               41. SW                        45.
08/30/73      20.               42. SW                        46.
04/14/74      20.               52. SW                        57.
03/24/75      20.               37. SW                        41.
07/15/76      20.               51.  W                        56.
03/04/77      20.               47. SW                        51.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	48.39	1.19	1.19
3.0	51.28	1.45	1.51
4.0	53.13	1.66	1.79
5.0	54.51	1.82	2.01
6.0	55.60	1.96	2.19
7.0	56.50	2.07	2.34
8.0	57.28	2.17	2.48
9.0	57.96	2.26	2.60
10.0	58.56	2.34	2.71
20.0	62.45	2.86	3.42
26.0	63.90	3.06	3.69
30.0	64.68	3.17	3.84
40.0	66.26	3.39	4.14
50.0	67.48	3.56	4.37
60.0	68.47	3.70	4.56
70.0	69.31	3.82	4.72
80.0	70.04	3.92	4.86
90.0	70.68	4.01	4.98
100.0	71.25	4.09	5.09
200.0	75.01	4.62	5.81
300.0	77.20	4.94	6.24
400.0	78.76	5.16	6.54
500.0	79.96	5.33	6.77
600.0	80.95	5.47	6.96
700.0	81.78	5.59	7.13
800.0	82.50	5.70	7.27
900.0	83.14	5.79	7.39
1000.0	83.71	5.87	7.50
2000.0	87.45	6.41	8.23
3000.0	89.64	6.72	8.66
4000.0	91.20	6.95	8.96
5000.0	92.40	7.12	9.19
6000.0	93.39	7.27	9.39
7000.0	94.22	7.39	9.55
8000.0	94.94	7.49	9.69
9000.0	95.58	7.58	9.81
10000.0	96.15	7.66	9.92
50000.0	104.84	8.92	11.62
100000.0	108.58	9.47	12.35
500000.0	117.28	10.73	14.06
1000000.0	121.02	11.28	14.79

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   DAYTON,OHIO (1943-1977)


        THE SAMPLE NUMBER OF OBSERVATIONS =      35.00
        THE SAMPLE MEAN                   =      53.62
        THE SAMPLE STANDARD DEVIATION     =       7.61
        THE SAMPLE MINIMUM                =      40.50
        THE SAMPLE MAXIMUM                =      72.04

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED   CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED   WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)   GROUND (CORRECTED SPEED)

07/25/43       55.             70.  W                          65.
02/22/44       55.             63.  W                          58.
06/16/45       55.             70. SW                          65.
02/14/46       55.             66. SW                          61.
03/24/47       55.             69. NW                          64.
03/19/48       55.             70.  W                          65.
01/18/49       55.             49. SW                          45.
06/16/50       55.             78. NW                          72.
06/27/51       55.             56.  W                          52.
02/08/52       55.             62.  W                          57.
03/04/53       55.             51.  W                          47.
05/02/54       55.             56.  S                          52.
03/22/55       55.             61. SW                          56.
02/25/56       55.             56. NW                          52.
11/08/57       55.             49. SW                          45.
04/05/58       55.             56. NW                          52.
03/06/59       55.             63.  W                          58.
04/07/60       55.             56.  W                          52.
02/25/61       55.             59. NW                          54.
02/13/62       20.             39.  W                          43.
06/10/63       20.             53.  W                          58.
03/05/64       20.             50.  S                          55.
11/27/65       20.             37. SW                          41.
06/27/66       20.             40. NW                          44.
02/15/67       20.             56. NW                          61.
04/04/68       20.             43. SW                          47.
06/12/69       20.             39.  W                          43.
04/02/70       20.             48.  W                          53.
01/26/71       20.             56.  W                          61.
07/24/72       20.             52.  W                          57.
12/26/73       20.             47.  S                          51.
04/14/74       22.             47.  W                          51.
04/03/75       22.             42.  W                          45.
01/13/76       22.             45. SW                          48.
03/04/77       22.             45.  W                          48.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	52.44	1.18	1.18
3.0	55.76	1.44	1.50
4.0	57.89	1.65	1.77
5.0	59.46	1.81	1.99
6.0	60.71	1.94	2.17
7.0	61.75	2.05	2.32
8.0	62.64	2.15	2.46
9.0	63.42	2.24	2.58
10.0	64.11	2.32	2.68
20.0	68.56	2.84	3.39
30.0	71.13	3.14	3.81
35.0	72.10	3.26	3.97
40.0	72.94	3.36	4.10
50.0	74.33	3.53	4.33
60.0	75.47	3.66	4.52
70.0	76.43	3.78	4.68
80.0	77.27	3.88	4.82
90.0	78.00	3.97	4.94
100.0	78.66	4.05	5.05
200.0	82.96	4.58	5.76
300.0	85.48	4.89	6.18
400.0	87.26	5.11	6.48
500.0	88.65	5.28	6.71
600.0	89.78	5.42	6.90
700.0	90.73	5.54	7.06
800.0	91.56	5.65	7.20
900.0	92.29	5.74	7.32
1000.0	92.94	5.82	7.43
2000.0	97.23	6.35	8.16
3000.0	99.75	6.67	8.58
4000.0	101.53	6.89	8.88
5000.0	102.91	7.06	9.11
6000.0	104.04	7.20	9.30
7000.0	104.99	7.32	9.46
8000.0	105.82	7.42	9.60
9000.0	106.55	7.52	9.73
10000.0	107.20	7.60	9.84
50000.0	117.17	8.85	11.52
100000.0	121.46	9.39	12.25
500000.0	131.43	10.64	13.94
1000000.0	135.72	11.18	14.66

TOLEDO,OHIO (1943-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 35.00
THE SAMPLE MEAN = 50.79
THE SAMPLE STANDARD DEVIATION = 8.97
THE SAMPLE MINIMUM = 38.31
THE SAMPLE MAXIMUM = 82.19

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
03/17/43	41.	56. SW	54.
06/02/44	47.	47. W	44.
03/17/45	47.	61. S	58.
02/14/46	47.	63. SW	60.
04/06/47	47.	59. SW	56.
03/19/48	47.	87. SW	82.
01/19/49	47.	66. SW	62.
01/14/50	47.	56. SW	53.
03/03/51	47.	52. SW	49.
11/26/52	47.	56. SW	53.
03/18/53	47.	53. W	50.
03/25/54	47.	49. SW	46.
03/22/55	66.	56. SW	50.
04/03/56	66.	72. SW	65.
04/05/57	66.	66. W	59.
04/24/58	66.	46. SW	41.
04/03/59	20.	40. NW	44.
02/19/60	20.	35. NW	38.
06/01/61	20.	47. W	51.
04/30/62	20.	51. NW	56.
06/10/63	20.	42. SW	46.
06/12/64	20.	37. SW	41.
08/27/65	20.	47. W	51.
01/27/66	20.	35. NW	38.
02/16/67	20.	56. SW	61.
04/08/68	20.	40. SW	44.
07/04/69	30.	53. NW	54.
07/02/70	30.	54. NW	55.
01/29/71	30.	47. W	48.
01/24/72	30.	47. W	48.
06/26/73	30.	43. SW	44.
04/14/74	30.	40. SW	41.
07/03/75	30.	50. NW	51.
03/05/76	30.	41. SW	42.
01/28/77	30.	42. W	43.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2, DISTRIBUTION (GAMMA = 11.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	49.02	49.40	1.39	1.39
3.0	52.78	53.32	1.70	1.77
4.0	55.28	55.83	1.94	2.09
5.0	57.19	57.68	2.13	2.34
6.0	58.73	59.16	2.29	2.56
7.0	60.04	60.39	2.42	2.74
8.0	61.17	61.44	2.54	2.90
9.0	62.18	62.35	2.64	3.04
10.0	63.08	63.17	2.73	3.17
20.0	69.12	68.43	3.34	4.00
30.0	72.78	71.45	3.70	4.49
35.0	74.20	72.60	3.84	4.68
40.0	75.44	73.58	3.96	4.84
50.0	77.55	75.23	4.16	5.11
60.0	79.30	76.58	4.32	5.33
70.0	80.80	77.71	4.46	5.52
80.0	82.12	78.70	4.58	5.68
90.0	83.30	79.56	4.69	5.82
100.0	84.36	80.34	4.78	5.95
200.0	91.58	85.42	5.40	6.80
300.0	96.01	88.39	5.77	7.29
400.0	99.26	90.49	6.03	7.64
500.0	101.83	92.12	6.23	7.92
600.0	103.97	93.46	6.40	8.14
700.0	105.81	94.59	6.54	8.33
800.0	107.43	95.56	6.66	8.49
900.0	108.87	96.42	6.77	8.64
1000.0	110.17	97.19	6.86	8.77
2000.0	119.05	102.26	7.49	9.62
3000.0	124.50	105.22	7.86	10.12
4000.0	128.50	107.33	8.12	10.47
5000.0	131.67	108.96	8.33	10.75
6000.0	134.31	110.29	8.49	10.97
7000.0	136.58	111.42	8.64	11.16
8000.0	138.57	112.39	8.76	11.33
9000.0	140.34	113.25	8.86	11.47
10000.0	141.95	114.02	8.96	11.60
50000.0	168.45	125.78	10.43	13.59
100000.0	181.11	130.85	11.07	14.44
500000.0	213.82	142.62	12.55	16.44
1000000.0	229.44	147.68	13.18	17.29

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OKLAHOMA CITY,OKLAHOMA (1952-1977)

     THE SAMPLE NUMBER OF OBSERVATIONS =     26.00
     THE SAMPLE MEAN                   =     53.97
     THE SAMPLE STANDARD DEVIATION     =      5.96
     THE SAMPLE MINIMUM                =     44.88
     THE SAMPLE MAXIMUM                =     69.27

  DATE    ANEMOMETER    FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT) AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                        AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

07/07/52     70.              61. NW                        55.
02/15/53     70.              61. NW                        55.
03/24/54     70.              61.  S                        55.
05/26/55     55.              63. SW                        58.
02/24/56     55.              56. NW                        52.
06/12/57     55.              72. SW                        66.
11/17/58     55.              66.  S                        61.
03/14/59     55.              54. NW                        50.
04/28/60     55.              75. NW                        69.
12/22/61     55.              56. NW                        52.
05/25/62     55.              66. SW                        61.
06/16/63     55.              54.  W                        50.
04/12/64     55.              56.  W                        52.
06/01/65     20.              54. NW                        59.
03/22/66     20.              42. NW                        46.
12/02/67     20.              45. NW                        49.
12/18/68     20.              43. SW                        47.
05/31/69     20.              48. NW                        53.
04/30/70     20.              46.  W                        50.
06/02/71     20.              52.  N                        57.
03/20/72     20.              46. NW                        50.
05/27/73     20.              48.  W                        53.
04/02/74     20.              44. SW                        48.
01/19/75     20.              49.  N                        54.
12/30/76     20.              41. NE                        45.
03/10/77     20.              53. SE                        58.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON CPTIMAL EXTREME VALUE TYPE 2, DISTRIBUTION (GAMMA = 30.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	52.96	53.06	1.07	1.07
3.0	55.59	55.72	1.31	1.36
4.0	57.31	57.43	1.50	1.61
5.0	58.58	58.69	1.64	1.81
6.0	59.61	59.70	1.76	1.97
7.0	60.47	60.53	1.87	2.11
8.0	61.20	61.25	1.96	2.24
9.0	61.85	61.87	2.04	2.34
10.0	62.43	62.42	2.11	2.44
20.0	66.20	66.00	2.58	3.08
26.0	67.64	67.34	2.76	3.33
30.0	68.42	68.06	2.86	3.46
40.0	70.00	69.52	3.05	3.73
50.0	71.23	70.64	3.21	3.94
60.0	72.24	71.55	3.33	4.11
70.0	73.10	72.33	3.44	4.25
80.0	73.85	72.99	3.53	4.38
90.0	74.51	73.58	3.61	4.49
100.0	75.10	74.11	3.69	4.59
200.0	79.05	77.57	4.17	5.24
300.0	81.40	79.59	4.45	5.62
400.0	83.08	81.02	4.65	5.89
500.0	84.40	82.13	4.80	6.10
600.0	85.48	83.04	4.93	6.28
700.0	86.40	83.81	5.04	6.42
800.0	87.20	84.47	5.13	6.55
900.0	87.91	85.06	5.22	6.66
1000.0	88.55	85.58	5.29	6.76
2000.0	92.80	89.03	5.78	7.42
3000.0	95.33	91.05	6.06	7.80
4000.0	97.14	92.48	6.26	8.07
5000.0	98.56	93.59	6.42	8.29
6000.0	99.73	94.50	6.55	8.46
7000.0	100.73	95.26	6.66	8.61
8000.0	101.59	95.93	6.75	8.73
9000.0	102.36	96.51	6.83	8.84
10000.0	103.05	97.04	6.91	8.94
50000.0	113.86	105.04	8.04	10.48
100000.0	118.70	108.49	8.53	11.14
500000.0	130.38	116.50	9.67	12.67
1000000.0	135.61	119.95	10.16	13.33

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TULSA,OKLAHOMA (1943-1977). REFER TO SECT. 2.2

      THE SAMPLE NUMBER OF OBSERVATIONS =       35.00
      THE SAMPLE MEAN                   =       47.85
      THE SAMPLE STANDARD DEVIATION     =        6.92
      THE SAMPLE MINIMUM                =       35.97
      THE SAMPLE MAXIMUM                =       68.30

  DATE     ANEMOMETER    FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                         AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

04/11/43     61.              70. NW                          64.
08/06/44     61.              56. NW                          51.
07/09/45     61.              56.  N                          51.
06/30/46     61.              46.  S                          42.
01/29/47     61.              55. SW                          50.
06/21/48     61.              65. NW                          59.
05/21/49     61.              75. SW                          68.
01/24/50     61.              54. SW                          49.
08/10/51     61.              56.  W                          51.
03/12/52     61.              43. SW                          39.
11/20/53     61.              41. SW                          37.
08/01/54     61.              56.  N                          51.
06/05/55     61.              43.  W                          39.
02/24/56     61.              48. NW                          44.
11/29/57     39.              51.  N                          50.
02/27/58     39.              47.  W                          46.
03/20/59     39.              50.  N                          49.
05/19/60     39.              48. SW                          47.
04/30/61     39.              57. NW                          55.
03/28/62     39.              37. SE                          36.
04/18/63     23.              45. SE                          48.
04/12/64     23.              40.  S                          43.
06/05/65     23.              38. SE                          40.
10/14/66     23.              41. SW                          44.
12/18/67     23.              42. SW                          45.
12/12/68     23.              41. SW                          44.
06/22/69     23.              47.  S                          50.
10/22/70     23.              38. SE                          40.
05/26/71     23.              49. NW                          52.
04/26/72     23.              40. SE                          43.
06/11/73     23.              45.  S                          48.
04/10/74     23.              47. SE                          50.
01/05/75     23.              46.  S                          49.
03/29/76     23.              46. SW                          49.
12/16/77     23.              49. SW                          52.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 150.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	46.76	46.78	1.07	1.07
3.0	49.76	49.79	1.31	1.36
4.0	51.69	51.72	1.50	1.61
5.0	53.12	53.15	1.64	1.81
6.0	54.26	54.28	1.76	1.97
7.0	55.21	55.23	1.87	2.11
8.0	56.02	56.03	1.96	2.24
9.0	56.73	56.74	2.04	2.34
10.0	57.36	57.36	2.11	2.44
20.0	61.45	61.41	2.58	3.08
30.0	63.81	63.74	2.86	3.46
35.0	64.70	64.62	2.96	3.61
40.0	65.48	65.38	3.05	3.73
50.0	66.77	66.64	3.21	3.94
60.0	67.82	67.68	3.33	4.11
70.0	68.72	68.55	3.44	4.25
80.0	69.49	69.31	3.53	4.38
90.0	70.17	69.97	3.61	4.49
100.0	70.78	70.57	3.69	4.59
200.0	74.79	74.48	4.17	5.24
300.0	77.14	76.76	4.45	5.62
400.0	78.81	78.38	4.65	5.89
500.0	80.11	79.63	4.80	6.10
600.0	81.17	80.66	4.93	6.28
700.0	82.07	81.53	5.04	6.42
800.0	82.85	82.28	5.13	6.55
900.0	83.54	82.94	5.22	6.66
1000.0	84.16	83.53	5.29	6.76
2000.0	88.22	87.43	5.78	7.42
3000.0	90.60	89.71	6.06	7.80
4000.0	92.30	91.32	6.26	8.07
5000.0	93.61	92.58	6.42	8.29
6000.0	94.69	93.60	6.55	8.46
7000.0	95.60	94.47	6.66	8.61
8000.0	96.40	95.22	6.75	8.73
9000.0	97.09	95.88	6.83	8.84
10000.0	97.72	96.47	6.91	8.94
50000.0	107.32	105.52	8.04	10.48
100000.0	111.49	109.41	8.53	11.14
500000.0	121.25	118.46	9.67	12.67
1000000.0	125.48	122.36	10.16	13.33

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   PORTLAND,OREGON (1950-1977). REFER TO SECT. 2.2

           THE SAMPLE NUMBER OF OBSERVATIONS =       28.00
           THE SAMPLE MEAN                   =       52.58
           THE SAMPLE STANDARD DEVIATION     =       10.34
           THE SAMPLE MINIMUM                =       37.77
           THE SAMPLE MAXIMUM                =       87.93

  DATE      ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
           ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                           AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

10/27/50       33.              50. SW                         50.
12/04/51       33.              57.  S                         57.
11/14/52       33.              42. SW                         42.
11/14/53       33.              55.  S                         55.
01/07/54       33.              47.  S                         47.
02/28/55       33.              56.  S                         56.
01/04/56       33.              52.  S                         52.
04/14/57       33.              60.  S                         60.
02/24/58       33.              61. SW                         61.
01/24/59       33.              42.  S                         42.
04/13/60       33.              47. SW                         47.
11/21/61       33.              56. SW                         56.
10/12/62       33.              88.  S                         88.
09/09/63       33.              61.  S                         61.
01/17/64       33.              49.  S                         49.
02/05/65       25.              58. SE                         61.
01/01/66       25.              36. SW                         38.
10/02/67       25.              70.  S                         73.
01/09/68       25.              45.  S                         47.
12/11/69       25.              46. SW                         48.
11/22/70       25.              45.  E                         47.
03/26/71       25.              48.  S                         50.
04/05/72       25.              48.  S                         50.
01/09/73       25.              46.  E                         48.
03/01/74       20.              50.  S                         55.
01/31/75       20.              37. SE                         41.
02/24/76       20.              40. SW                         44.
12/15/77       20.              43. SW                         47.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2, DISTRIBUTION (GAMMA = 4.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	49.90	51.02	1.79	1.79
3.0	53.85	55.51	2.19	2.28
4.0	56.67	58.39	2.50	2.69
5.0	58.91	60.52	2.75	3.02
6.0	60.81	62.21	2.95	3.30
7.0	62.45	63.62	3.12	3.53
8.0	63.91	64.82	3.27	3.74
9.0	65.24	65.87	3.40	3.92
10.0	66.45	66.80	3.52	4.08
20.0	75.13	72.84	4.31	5.16
28.0	79.87	75.72	4.69	5.68
30.0	80.88	76.31	4.77	5.79
40.0	85.31	78.75	5.10	6.24
50.0	88.96	80.64	5.36	6.58
60.0	92.10	82.19	5.57	6.87
70.0	94.86	83.49	5.75	7.11
80.0	97.33	84.61	5.90	7.32
90.0	99.59	85.61	6.04	7.50
100.0	101.66	86.49	6.16	7.67
200.0	116.71	92.32	6.96	8.76
300.0	126.79	95.73	7.44	9.40
400.0	134.59	98.14	7.77	9.85
500.0	141.03	100.01	8.03	10.20
600.0	146.57	101.54	8.24	10.49
700.0	151.45	102.84	8.43	10.74
800.0	155.84	103.96	8.58	10.95
900.0	159.83	104.94	8.72	11.13
1000.0	163.50	105.83	8.84	11.30
2000.0	190.20	111.64	9.66	12.40
3000.0	208.11	115.03	10.13	13.04
4000.0	221.96	117.45	10.47	13.50
5000.0	233.41	119.32	10.73	13.85
6000.0	243.25	120.84	10.95	14.14
7000.0	251.93	122.14	11.13	14.39
8000.0	259.72	123.25	11.29	14.60
9000.0	266.82	124.24	11.42	14.78
10000.0	273.34	125.12	11.55	14.95
50000.0	397.65	138.61	13.45	17.51
100000.0	468.65	144.42	14.26	18.61
500000.0	689.95	157.92	16.17	21.18
1000000.0	816.25	163.73	16.99	22.29

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   ROSEBURG,OREGON (1953-1964). REFER TO SECT. 2.2

         THE SAMPLE NUMBER OF OBSERVATIONS =       12.00
         THE SAMPLE MEAN                   =       35.59
         THE SAMPLE STANDARD DEVIATION     =        5.95
         THE SAMPLE MINIMUM                =       29.63
         THE SAMPLE MAXIMUM                =       51.08

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
         ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                        AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

01/29/53      29.                 29.  S                     30.
10/06/54      29.                 33.  S                     34.
01/17/55      29.                 33. SE                     34.
01/15/56      29.                 34. SW                     35.
10/19/57      29.                 31.  N                     32.
02/24/58      29.                 37. SW                     38.
11/20/59      29.                 31. SW                     32.
11/20/60      29.                 30. SW                     31.
02/24/61      29.                 38. SW                     39.
10/12/62      29.                 50.  S                     51.
03/27/63      29.                 40.  S                     41.
03/11/64      29.                 32.  S                     33.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 2.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	33.66	34.76	1.57	1.58
3.0	35.82	37.46	1.93	2.01
4.0	37.54	39.18	2.20	2.37
5.0	39.01	40.46	2.42	2.66
6.0	40.32	41.47	2.59	2.90
7.0	41.52	42.31	2.75	3.11
8.0	42.63	43.04	2.88	3.29
9.0	43.66	43.67	2.99	3.45
10.0	44.64	44.23	3.10	3.59
12.0	46.44	45.19	3.28	3.84
20.0	52.43	47.84	3.79	4.54
30.0	58.36	49.92	4.20	5.09
40.0	63.35	51.39	4.49	5.49
50.0	67.73	52.52	4.72	5.79
60.0	71.69	53.45	4.90	6.04
70.0	75.33	54.23	5.06	6.26
80.0	78.71	54.90	5.19	6.44
90.0	81.89	55.50	5.31	6.60
100.0	84.89	56.03	5.42	6.75
200.0	109.12	59.53	6.13	7.71
300.0	127.70	61.57	6.54	8.27
400.0	143.36	63.01	6.84	8.67
500.0	157.15	64.14	7.07	8.98
600.0	169.62	65.05	7.25	9.23
700.0	181.08	65.83	7.41	9.44
800.0	191.75	66.50	7.55	9.63
900.0	201.78	67.09	7.67	9.79
1000.0	211.25	67.62	7.78	9.94
2000.0	287.75	71.10	8.49	10.91
3000.0	346.45	73.14	8.91	11.47
4000.0	395.93	74.59	9.21	11.87
5000.0	439.53	75.71	9.44	12.19
6000.0	478.94	76.62	9.63	12.44
7000.0	515.19	77.40	9.79	12.66
8000.0	548.92	78.07	9.93	12.84
9000.0	580.60	78.66	10.05	13.01
10000.0	610.59	79.19	10.16	13.15
50000.0	1332.40	87.28	11.83	15.41
100000.0	1873.26	90.76	12.55	16.38
500000.0	4158.90	98.85	14.22	18.63
1000000.0	5870.53	102.33	14.95	19.61

HARRISBURG,PA. (1939-1977). REFER TO SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 39.00
THE SAMPLE MEAN = 45.73
THE SAMPLE STANDARD DEVIATION = 7.54
THE SAMPLE MINIMUM = 35.07
THE SAMPLE MAXIMUM = 64.44

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
02/20/39	50.	60. SW	56.
05/15/40	50.	46. S	43.
03/18/41	50.	42. NW	39.
06/12/42	50.	46. SW	43.
08/04/43	50.	43. SW	40.
12/28/44	50.	41. NW	38.
03/31/45	50.	47. S	44.
02/14/46	50.	49. S	46.
03/25/47	50.	42. W	39.
04/09/48	46.	44. W	42.
01/01/49	46.	39. NW	37.
11/25/50	46.	58. SE	55.
12/15/51	46.	42. NW	40.
04/05/52	46.	56. SW	53.
12/31/53	46.	61. NW	58.
03/01/54	46.	64. SE	61.
03/07/55	46.	68. W	64.
02/25/56	46.	59. NW	56.
02/10/57	46.	41. NW	39.
11/29/58	46.	38. W	36.
01/09/59	46.	40. NW	38.
02/20/60	46.	37. W	35.
02/26/61	46.	37. NW	35.
03/06/62	21.	36. NE	39.
06/10/63	21.	48. W	52.
03/26/64	21.	42. W	46.
04/12/65	21.	42. W	46.
01/30/66	21.	42. NW	46.
04/22/67	21.	43. W	47.
02/17/68	21.	43. NW	47.
01/01/69	21.	36. NW	39.
04/02/70	21.	51. W	55.
01/26/71	21.	46. W	50.
01/25/72	21.	42. W	46.
03/17/73	21.	40. SW	43.
09/29/74	21.	39. NW	42.
04/03/75	21.	46. NW	50.
01/14/76	21.	50. W	54.

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11/26/77     21.              42. NW                      46.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	44.56	1.11	1.11
3.0	47.85	1.35	1.41
4.0	49.96	1.55	1.66
5.0	51.52	1.70	1.87
6.0	52.76	1.82	2.04
7.0	53.79	1.93	2.18
8.0	54.68	2.02	2.31
9.0	55.45	2.10	2.42
10.0	56.13	2.18	2.52
20.0	60.56	2.66	3.18
30.0	63.10	2.95	3.57
39.0	64.74	3.14	3.83
40.0	64.90	3.15	3.85
50.0	66.28	3.31	4.07
60.0	67.41	3.44	4.24
70.0	68.37	3.55	4.39
80.0	69.19	3.65	4.52
90.0	69.92	3.73	4.64
100.0	70.57	3.81	4.74
200.0	74.85	4.30	5.41
300.0	77.34	4.59	5.81
400.0	79.11	4.80	6.09
500.0	80.49	4.96	6.30
600.0	81.61	5.09	6.48
700.0	82.56	5.21	6.63
800.0	83.38	5.30	6.76
900.0	84.10	5.39	6.88
1000.0	84.75	5.46	6.98
2000.0	89.01	5.97	7.66
3000.0	91.50	6.26	8.06
4000.0	93.27	6.47	8.34
5000.0	94.64	6.63	8.56
6000.0	95.76	6.76	8.74
7000.0	96.71	6.87	8.89
8000.0	97.53	6.97	9.02
9000.0	98.25	7.06	9.13
10000.0	98.90	7.13	9.24
50000.0	108.79	8.31	10.82
100000.0	113.05	8.81	11.50
500000.0	122.95	9.99	13.09
1000000.0	127.21	10.50	13.77

PHILADELPHIA.PA. (1955-1977) CAUTION -- SEE APPENDIX 1

THE SAMPLE NUMBER OF OBSERVATIONS = 23.00
THE SAMPLE MEAN = 49.51
THE SAMPLE STANDARD DEVIATION = 5.72
THE SAMPLE MINIMUM = 41.60
THE SAMPLE MAXIMUM = 62.39

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
08/13/55	120.	67.	E	57.
02/25/56	120.	59.	NW	50.
05/26/57	120.	56.	SW	47.
06/11/58	120.	73.	NW	62.
01/06/59	120.	52.	NW	44.
09/12/60	20.	49.	NE	54.
04/13/61	20.	39.	E	43.
03/06/62	20.	48.	NE	53.
01/27/63	20.	42.	NW	46.
03/05/64	20.	42.	SW	46.
02/25/65	20.	41.	SW	45.
01/31/66	20.	38.	W	42.
02/16/67	20.	40.	W	44.
11/12/68	20.	45.	NE	49.
06/23/69	20.	57.	NW	62.
04/02/70	20.	43.	W	47.
03/04/71	20.	43.	W	47.
08/26/72	20.	43.	N	47.
03/17/73	20.	47.	SW	51.
05/12/74	20.	40.	NW	44.
04/03/75	20.	47.	W	51.
03/21/76	20.	50.	NW	55.
08/06/77	20.	49.	NW	54.

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  RETURN PERIOD       PREDICTED EXTREME WIND       PREDICTED EXTREME WIND      ESTIMATED      ESTIMATED
   (IN YEARS)           BASED ON OPTIMAL                 BASED ON             STAN. DEV.     STAN. DEV.
                      EXTREME VALUE TYPE 2.        EXTREME VALUE TYPE 1      SAMPL. ERROR   SAMPL. ERROR
                          DISTRIBUTION                 DISTRIBUTION          CRAMER-RAO     METH. OF MOM.
                      (GAMMA =     150.00000)

         2.0                  48.62                        48.64                 1.09            1.10
         3.0                  51.18                        51.20                 1.34            1.39
         4.0                  52.82                        52.84                 1.53            1.64
         5.0                  54.04                        54.06                 1.68            1.84
         6.0                  55.01                        55.03                 1.80            2.01

         7.0                  55.82                        55.83                 1.91            2.16
         8.0                  56.51                        56.51                 2.00            2.28
         9.0                  57.11                        57.11                 2.08            2.39
        10.0                  57.65                        57.65                 2.15            2.49
        20.0                  61.13                        61.09                 2.63            3.15

        23.0                  61.83                        61.78                 2.73            3.28
        30.0                  63.14                        63.07                 2.91            3.53
        40.0                  64.56                        64.47                 3.12            3.81
        50.0                  65.66                        65.55                 3.27            4.02
        60.0                  66.56                        66.43                 3.40            4.19

        70.0                  67.32                        67.17                 3.51            4.34
        80.0                  67.98                        67.81                 3.60            4.47
        90.0                  68.56                        68.38                 3.69            4.58
       100.0                  69.07                        68.89                 3.76            4.68
       200.0                  72.49                        72.21                 4.25            5.35

       300.0                  74.49                        74.16                 4.54            5.74
       400.0                  75.92                        75.53                 4.74            6.01
       500.0                  77.02                        76.60                 4.90            6.23
       600.0                  77.93                        77.47                 5.03            6.40
       700.0                  78.69                        78.21                 5.14            6.55

       800.0                  79.36                        78.85                 5.24            6.68
       900.0                  79.94                        79.42                 5.32            6.80
      1000.0                  80.47                        79.92                 5.40            6.90
      2000.0                  83.92                        83.24                 5.89            7.57
      3000.0                  85.95                        85.18                 6.18            7.96

      4000.0                  87.40                        86.55                 6.39            8.24
      5000.0                  88.52                        87.62                 6.55            8.45
      6000.0                  89.44                        88.49                 6.68            8.63
      7000.0                  90.21                        89.23                 6.79            8.78
      8000.0                  90.89                        89.87                 6.89            8.91

      9000.0                  91.48                        90.43                 6.97            9.02
     10000.0                  92.01                        90.93                 7.05            9.13
     50000.0                 100.19                        98.63                 8.21           10.69
    100000.0                 103.74                       101.95                 8.71           11.36
    500000.0                 112.05                       109.65                 9.87           12.93

   1000000.0                 115.65                       112.97                10.37           13.60
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PITTSBURGH,PA. (1935-1952)

     THE SAMPLE NUMBER OF OBSERVATIONS =       18.00
     THE SAMPLE MEAN                   =       48.35
     THE SAMPLE STANDARD DEVIATION     =        5.84
     THE SAMPLE MINIMUM                =       39.10
     THE SAMPLE MAXIMUM                =       59.58

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

08/15/35      52.              50.  S                         47.
04/15/36      52.              60. NW                         56.
07/25/37      52.              64. NW                         60.
12/27/38      52.              47.  W                         44.
02/20/39      52.              58. NW                         54.
05/19/40      52.              54. NW                         50.
04/21/41      52.              45. NW                         42.
03/09/42      52.              56. SW                         52.
01/04/43      52.              51. NW                         47.
02/23/44      52.              50. NW                         47.
04/04/45      52.              48. NW                         45.
02/15/46      52.              52. NW                         48.
04/06/47      52.              60.  W                         56.
03/22/48      52.              49.  W                         46.
01/01/49      52.              48. NW                         45.
03/18/50      52.              42. NW                         39.
12/15/51      52.              43.  W                         40.
05/25/52      52.              58.  W                         54.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	47.49	1.26	1.26
3.0	50.12	1.54	1.61
4.0	51.81	1.76	1.89
5.0	53.06	1.93	2.13
6.0	54.05	2.08	2.32
7.0	54.87	2.20	2.49
8.0	55.58	2.30	2.63
9.0	56.19	2.40	2.76
10.0	56.74	2.48	2.87
18.0	59.75	2.95	3.52
20.0	60.28	3.04	3.63
30.0	62.31	3.36	4.08
40.0	63.75	3.60	4.39
50.0	64.86	3.78	4.64
60.0	65.76	3.92	4.84
70.0	66.52	4.05	5.01
80.0	67.18	4.16	5.16
90.0	67.76	4.25	5.29
100.0	68.29	4.34	5.40
200.0	71.70	4.91	6.17
300.0	73.70	5.24	6.62
400.0	75.11	5.47	6.94
500.0	76.21	5.66	7.19
600.0	77.11	5.81	7.39
700.0	77.87	5.93	7.56
800.0	78.52	6.04	7.71
900.0	79.10	6.14	7.84
1000.0	79.62	6.23	7.96
2000.0	83.02	6.80	8.73
3000.0	85.02	7.14	9.19
4000.0	86.43	7.37	9.51
5000.0	87.53	7.56	9.76
6000.0	88.42	7.71	9.96
7000.0	89.18	7.84	10.13
8000.0	89.84	7.95	10.28
9000.0	90.41	8.05	10.41
10000.0	90.93	8.13	10.53
50000.0	98.84	9.47	12.34
100000.0	102.24	10.05	13.11
500000.0	110.16	11.39	14.92
1000000.0	113.56	11.97	15.70

SCRANTON,PA. (1955-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 23.00
THE SAMPLE MEAN = 44.61
THE SAMPLE STANDARD DEVIATION = 4.83
THE SAMPLE MINIMUM = 36.87
THE SAMPLE MAXIMUM = 54.21

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
10/14/55	92.	50. SE	43.
02/25/56	92.	60. W	52.
12/20/57	92.	47. SW	41.
08/31/58	92.	47. SW	41.
03/06/59	21.	42. SE	46.
02/25/60	21.	50. SE	54.
06/02/61	21.	42. SW	46.
12/30/62	21.	45. W	49.
04/04/63	21.	42. W	46.
01/25/64	21.	43. SE	47.
04/12/65	21.	40. SW	43.
03/01/66	21.	34. W	37.
02/16/67	21.	41. SW	44.
05/03/68	21.	39. W	42.
11/19/69	21.	34. S	37.
03/26/70	21.	49. S	53.
03/04/71	21.	38. W	41.
01/25/72	21.	36. SW	39.
03/17/73	21.	43. SW	47.
12/02/74	21.	42. E	46.
04/03/75	21.	38. NW	41.
03/17/76	21.	38. NW	41.
01/28/77	21.	47. SE	51.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	43.88	.92	.92
3.0	46.03	1.13	1.18
4.0	47.40	1.29	1.39
5.0	48.42	1.42	1.56
6.0	49.23	1.52	1.70
7.0	49.91	1.61	1.82
8.0	50.48	1.69	1.93
9.0	50.99	1.75	2.02
10.0	51.43	1.82	2.10
20.0	54.32	2.22	2.66
23.0	54.90	2.30	2.77
30.0	55.98	2.46	2.98
40.0	57.16	2.63	3.21
50.0	58.06	2.76	3.39
60.0	58.80	2.87	3.54
70.0	59.42	2.96	3.67
80.0	59.96	3.04	3.77
90.0	60.44	3.11	3.87
100.0	60.86	3.18	3.95
200.0	63.65	3.59	4.52
300.0	65.28	3.83	4.84
400.0	66.44	4.01	5.08
500.0	67.34	4.14	5.26
600.0	68.07	4.25	5.41
700.0	68.69	4.34	5.53
800.0	69.22	4.42	5.64
900.0	69.70	4.49	5.74
1000.0	70.12	4.56	5.83
2000.0	72.90	4.98	6.39
3000.0	74.53	5.22	6.72
4000.0	75.68	5.40	6.96
5000.0	76.58	5.53	7.14
6000.0	77.31	5.64	7.29
7000.0	77.93	5.74	7.42
8000.0	78.46	5.82	7.53
9000.0	78.94	5.89	7.62
10000.0	79.36	5.95	7.71
50000.0	85.82	6.93	9.03
100000.0	88.60	7.35	9.60
500000.0	95.06	8.34	10.92
1000000.0	97.84	8.76	11.49

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      BLOCK ISLAND, R.I. (1920-1950)   CAUTION -- SEE APPENDIX 1

          THE SAMPLE NUMBER OF OBSERVATIONS =      31.00
          THE SAMPLE MEAN                   =      61.39
          THE SAMPLE STANDARD DEVIATION     =       8.67
          THE SAMPLE MINIMUM                =      46.44
          THE SAMPLE MAXIMUM                =      86.24

   DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

 11/23/20     46.               59.  E                    56.
 12/21/21     46.               57. NW                    54.
 12/29/22     46.               58. NE                    55.
 10/23/23     46.               56. NE                    53.
 08/26/24     46.               63.  N                    60.
 10/10/25     46.               59. NW                    56.
 01/22/26     46.               57. NW                    54.
 02/20/27     46.               60. NE                    57.
 01/25/28     46.               66. SW                    63.
 01/07/29     46.               56. SW                    53.
 02/16/30     46.               63. NW                    60.
 12/07/31     46.               59.  W                    56.
 11/10/32     46.               62.  E                    59.
 12/27/33     46.               62. NW                    59.
 12/27/34     46.               61. NW                    58.
 11/17/35     46.               65. NE                    62.
 09/19/36     46.               65.  N                    62.
 02/16/37     46.               49. NE                    46.
 09/21/38     46.               91. SE                    86.
 11/05/39     46.               66.  W                    63.
 02/14/40     46.               59. NE                    56.
 12/15/41     46.               59. NW                    56.
 12/02/42     46.               66.  W                    63.
 12/11/43     46.               77. NW                    73.
 09/14/44     46.               88. SE                    83.
 01/24/45     46.               69. NW                    65.
 02/20/46     46.               66. SE                    63.
 11/12/47     46.               75. NW                    71.
 10/28/48     46.               75. NE                    71.
 04/19/49     46.               65.  E                    62.
 03/18/50     46.               75. NW                    71.
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RETURN PERIOD    PREDICTED EXTREME WIND    PREDICTED EXTREME WIND     ESTIMATED      ESTIMATED
 (IN YEARS)        BASED ON CPTIMAL               BASED ON            STAN. DEV.     STAN. DEV.
                 EXTREME VALUE TYPE 2.     EXTREME VALUE TYPE 1     SAMPL. ERROR   SAMPL. ERROR
                      DISTRIBUTION              DISTRIBUTION         CRAMER-RAO    METH. OF MOM.
                (GAMMA =       7.00000)

      2.0              59.49                     60.06                  1.43           1.43
      3.0              63.03                     63.84                  1.75           1.82
      4.0              65.44                     66.26                  1.99           2.14
      5.0              67.30                     68.04                  2.19           2.41
      6.0              68.83                     69.47                  2.35           2.63

      7.0              70.14                     70.65                  2.49           2.81
      8.0              71.28                     71.66                  2.61           2.98
      9.0              72.30                     72.54                  2.71           3.12
     10.0              73.22                     73.33                  2.81           3.25
     20.0              79.51                     78.40                  3.43           4.11

     30.0              83.44                     81.31                  3.80           4.61
     31.0              83.77                     81.55                  3.83           4.65
     40.0              86.35                     83.37                  4.07           4.97
     50.0              88.69                     84.96                  4.27           5.25
     60.0              90.65                     86.25                  4.44           5.47

     70.0              92.35                     87.35                  4.58           5.67
     80.0              93.85                     88.29                  4.70           5.83
     90.0              95.19                     89.13                  4.81           5.98
    100.0              96.41                     89.87                  4.91           6.11
    200.0             104.91                     94.77                  5.55           6.98

    300.0             110.28                     97.63                  5.92           7.49
    400.0             114.28                     99.66                  6.19           7.85
    500.0             117.50                    101.24                  6.40           8.13
    600.0             120.21                    102.52                  6.57           8.36
    700.0             122.55                    103.61                  6.71           8.55

    800.0             124.62                    104.55                  6.84           8.72
    900.0             126.48                    105.38                  6.95           8.87
   1000.0             128.17                    106.12                  7.05           9.00
   2000.0             139.95                    111.00                  7.69           9.88
   3000.0             147.40                    113.86                  8.07          10.39

   4000.0             152.95                    115.88                  8.34          10.75
   5000.0             157.42                    117.46                  8.55          11.04
   6000.0             161.18                    118.74                  8.72          11.27
   7000.0             164.43                    119.83                  8.87          11.46
   8000.0             167.31                    120.77                  8.99          11.63

   9000.0             169.89                    121.60                  9.10          11.78
  10000.0             172.24                    122.34                  9.20          11.91
  50000.0             212.87                    133.67                 10.71          13.95
 100000.0             233.46                    138.55                 11.37          14.83
 500000.0             289.97                    149.90                 12.88          16.88

1000000.0             318.59                    154.78                 13.54          17.76
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GREENVILLE,S.C. (1942-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 36.00
THE SAMPLE MEAN = 48.46
THE SAMPLE STANDARD DEVIATION = 11.01
THE SAMPLE MINIMUM = 31.67
THE SAMPLE MAXIMUM = 71.89

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
12/03/42	36.	50. W	49.
07/22/43	36.	59. N	58.
10/27/44	36.	56. N	55.
02/17/45	36.	50. W	49.
10/08/46	36.	73. N	72.
11/24/47	36.	52. SW	51.
01/24/48	36.	73. NE	72.
04/24/49	36.	66. NW	65.
06/14/50	36.	49. N	48.
07/15/51	36.	60. N	59.
05/10/52	36.	65. SW	64.
08/01/53	36.	56. E	55.
08/17/54	64.	70. SE	63.
03/22/55	64.	63. NW	57.
04/07/56	64.	56. W	51.
12/20/57	64.	50. SW	45.
04/22/58	64.	52. NW	47.
01/21/59	64.	35. SW	32.
03/22/60	23.	37. W	39.
03/08/61	23.	42. SW	45.
03/12/62	23.	47. W	50.
12/31/63	23.	47. NE	50.
12/25/64	23.	43. SE	46.
02/25/65	23.	36. W	38.
07/15/66	23.	57. NE	61.
01/27/67	23.	44. SW	47.
12/16/68	23.	34. NW	36.
06/09/69	23.	35. NW	37.
04/02/70	23.	44. SW	47.
12/03/71	23.	34. NE	36.
04/12/73	23.	34. W	36.
04/12/73	23.	36. W	38.
04/02/74	23.	40. SW	43.
04/19/75	23.	33. SW	35.
02/18/76	23.	30. S	32.
04/05/77	23.	32. W	34.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	46.75	1.68	1.68
3.0	51.56	2.06	2.14
4.0	54.64	2.35	2.53
5.0	56.92	2.58	2.84
6.0	58.73	2.77	3.10
7.0	60.24	2.93	3.32
8.0	61.52	3.07	3.51
9.0	62.65	3.20	3.68
10.0	63.65	3.31	3.83
20.0	70.11	4.05	4.84
30.0	73.82	4.48	5.43
36.0	75.48	4.68	5.70
40.0	76.44	4.79	5.85
50.0	78.47	5.03	6.18
60.0	80.12	5.23	6.45
70.0	81.51	5.40	6.68
80.0	82.72	5.54	6.87
90.0	83.78	5.67	7.05
100.0	84.73	5.78	7.20
200.0	90.97	6.54	8.22
300.0	94.61	6.98	8.82
400.0	97.20	7.30	9.25
500.0	99.20	7.54	9.58
600.0	100.84	7.74	9.85
700.0	102.22	7.91	10.08
800.0	103.42	8.06	10.28
900.0	104.48	8.19	10.45
1000.0	105.42	8.30	10.61
2000.0	111.64	9.07	11.64
3000.0	115.28	9.51	12.24
4000.0	117.86	9.83	12.67
5000.0	119.87	10.08	13.01
6000.0	121.50	10.28	13.28
7000.0	122.88	10.45	13.51
8000.0	124.08	10.60	13.71
9000.0	125.14	10.73	13.88
10000.0	126.08	10.84	14.04
50000.0	140.52	12.63	16.44
100000.0	146.74	13.39	17.48
500000.0	161.19	15.18	19.89
1000000.0	167.41	15.95	20.93

HURON,S.D. (1939-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 39.00
THE SAMPLE MEAN = 61.39
THE SAMPLE STANDARD DEVIATION = 8.13
THE SAMPLE MINIMUM = 45.97
THE SAMPLE MAXIMUM = 78.81

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
05/23/39	41.	70. NE	68.
11/11/40	41.	61. N	59.
05/07/41	41.	59. NW	57.
05/29/42	41.	70. NW	68.
10/19/43	41.	59. SE	57.
03/06/44	41.	66. NW	64.
04/08/45	41.	54. S	52.
02/05/46	41.	52. N	50.
09/27/47	41.	59. SE	57.
02/19/48	41.	56. NW	54.
10/10/49	41.	72. W	69.
05/05/50	41.	61. NW	59.
04/30/51	41.	68. SE	66.
07/06/52	41.	72. SW	69.
03/18/53	41.	68. NW	66.
11/23/54	41.	73. NW	70.
04/03/55	41.	73. SE	70.
07/06/56	41.	73. NW	70.
07/03/57	41.	77. NW	74.
11/25/58	41.	58. NW	56.
07/03/59	41.	58. N	56.
06/19/60	41.	65. SE	63.
07/25/61	41.	65. SW	63.
05/23/62	20.	65. NW	71.
12/08/63	20.	59. NW	65.
09/23/64	20.	57. NW	62.
03/17/65	20.	47. NW	51.
03/04/66	20.	54. NW	59.
01/16/67	20.	57. NW	62.
08/07/68	20.	72. NW	79.
07/14/69	20.	56. NW	61.
12/03/70	20.	42. NW	46.
10/18/71	20.	45. S	49.
02/17/72	20.	50. NW	55.
07/01/73	20.	46. NW	50.
07/02/74	20.	70. SW	77.
07/31/75	20.	56. SE	61.
04/16/76	20.	54. SW	59.

11/20/77	20.	45. NW	49.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	60.13	1.19	1.19
3.0	63.65	1.46	1.52
4.0	65.90	1.67	1.79
5.0	67.56	1.83	2.01
6.0	68.89	1.96	2.20
7.0	69.99	2.08	2.35
8.0	70.93	2.18	2.49
9.0	71.76	2.27	2.61
10.0	72.49	2.35	2.72
20.0	77.21	2.87	3.43
30.0	79.93	3.18	3.85
39.0	81.68	3.38	4.13
40.0	81.84	3.40	4.15
50.0	83.32	3.57	4.38
60.0	84.53	3.71	4.57
70.0	85.55	3.83	4.74
80.0	86.43	3.93	4.87
90.0	87.21	4.02	5.00
100.0	87.91	4.10	5.11
200.0	92.47	4.64	5.83
300.0	95.14	4.95	6.26
400.0	97.03	5.18	6.56
500.0	98.49	5.35	6.80
600.0	99.69	5.49	6.99
700.0	100.70	5.61	7.15
800.0	101.58	5.71	7.29
900.0	102.35	5.81	7.41
1000.0	103.04	5.89	7.53
2000.0	107.59	6.43	8.26
3000.0	110.25	6.75	8.68
4000.0	112.14	6.97	8.99
5000.0	113.61	7.15	9.22
6000.0	114.80	7.29	9.42
7000.0	115.82	7.41	9.58
8000.0	116.69	7.52	9.72
9000.0	117.46	7.61	9.85
10000.0	118.16	7.69	9.96
50000.0	128.72	8.95	11.66
100000.0	133.26	9.50	12.40
500000.0	143.83	10.77	14.11
1000000.0	148.38	11.31	14.84

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RAPID CITY,S.D. (1942-1977). REFER TO SECT. 2.2


          THE SAMPLE NUMBER OF OBSERVATIONS =      36.00
          THE SAMPLE MEAN                   =      60.99
          THE SAMPLE STANDARD DEVIATION     =       5.32
          THE SAMPLE MINIMUM                =      49.22
          THE SAMPLE MAXIMUM                =      70.48

   DATE     ANEMOMETER    FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

09/25/42      63.              73. NW                         66.
06/26/43      63.              72. SW                         65.
07/09/44      63.              70. SW                         63.
01/14/45      63.              66. NW                         60.
01/23/46      63.              66. NW                         60.
02/07/47      63.              75. NW                         68.
08/13/48      63.              72. SW                         65.
01/04/49      63.              73. NW                         66.
03/26/50      63.              72. NW                         65.
08/01/51      32.              65. NW                         65.
01/21/52      32.              61. NW                         61.
03/23/53      32.              65.  W                         65.
03/24/54      32.              53. NW                         53.
12/23/55      32.              60.  W                         60.
03/28/56      32.              49. NW                         49.
05/25/57      32.              54.  N                         54.
02/28/58      32.              50. NN                         50.
07/15/59      32.              66. SN                         66.
06/20/60      32.              56. NN                         56.
11/02/61      32.              59. NN                         59.
06/14/62      32.              54. SN                         54.
04/16/63      32.              52.  W                         52.
09/25/64      32.              61. NW                         61.
01/31/65      32.              57. NW                         57.
11/29/66      21.              59. NW                         64.
01/22/67      21.              65. SW                         70.
01/20/68      21.              56. NW                         61.
12/22/69      21.              56. NW                         61.
02/03/70      21.              59. NW                         64.
10/03/71      21.              59. NW                         64.
02/16/72      21.              56. NW                         61.
03/14/73      21.              56. NW                         61.
02/08/74      21.              49. NW                         53.
06/09/75      21.              57. NW                         62.
05/12/76      21.              57. NW                         62.
01/07/77      21.              63. NW                         68.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	60.21	.81	.81
3.0	62.40	.99	1.03
4.0	63.80	1.13	1.22
5.0	64.83	1.25	1.37
6.0	65.66	1.34	1.50
7.0	66.34	1.42	1.60
8.0	66.92	1.48	1.69
9.0	67.44	1.54	1.78
10.0	67.89	1.60	1.85
20.0	70.82	1.95	2.34
30.0	72.51	2.16	2.62
36.0	73.27	2.26	2.75
40.0	73.70	2.31	2.83
50.0	74.62	2.43	2.99
60.0	75.37	2.53	3.12
70.0	76.01	2.61	3.22
80.0	76.55	2.68	3.32
90.0	77.04	2.74	3.40
100.0	77.47	2.79	3.48
200.0	80.30	3.16	3.97
300.0	81.96	3.37	4.26
400.0	83.13	3.52	4.47
500.0	84.04	3.64	4.63
600.0	84.79	3.74	4.76
700.0	85.42	3.82	4.87
800.0	85.96	3.89	4.96
900.0	86.44	3.95	5.05
1000.0	86.87	4.01	5.12
2000.0	89.70	4.38	5.62
3000.0	91.35	4.59	5.91
4000.0	92.52	4.75	6.12
5000.0	93.43	4.87	6.28
6000.0	94.18	4.96	6.41
7000.0	94.81	5.05	6.52
8000.0	95.35	5.12	6.62
9000.0	95.83	5.18	6.71
10000.0	96.26	5.24	6.78
50000.0	102.82	6.10	7.94
100000.0	105.65	6.47	8.44
500000.0	112.21	7.33	9.61
1000000.0	115.04	7.71	10.11

CHATTANOOGA,TENN. (1941-1975)

THE SAMPLE NUMBER OF OBSERVATIONS = 35.00
THE SAMPLE MEAN = 47.83
THE SAMPLE STANDARD DEVIATION = 10.43
THE SAMPLE MINIMUM = 36.12
THE SAMPLE MAXIMUM = 75.93

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
07/31/41	54.	40.	W	37.
06/28/42	54.	48.	S	44.
01/19/43	54.	50.	NW	46.
03/27/44	54.	50.	NW	46.
04/16/45	54.	40.	SW	37.
02/13/46	54.	72.	SW	67.
03/24/47	54.	82.	W	76.
03/02/48	54.	62.	W	57.
06/05/49	54.	62.	NE	57.
03/27/50	54.	45.	S	42.
05/02/51	54.	63.	NW	58.
02/29/52	54.	63.	W	58.
06/13/53	54.	67.	NW	62.
02/16/54	54.	49.	NW	45.
04/24/55	54.	50.	SW	46.
02/25/56	54.	57.	W	53.
04/08/57	54.	57.	W	53.
02/28/58	54.	52.	SW	48.
01/21/59	54.	59.	SW	55.
06/24/60	54.	45.	SW	42.
04/28/61	54.	45.	W	42.
04/13/62	54.	42.	NW	39.
11/30/63	54.	41.	NW	38.
03/04/64	54.	54.	SW	50.
05/18/65	20.	43.	NW	47.
07/15/66	20.	38.	NE	42.
04/24/67	20.	36.	N	39.
12/28/68	20.	34.	SW	37.
05/10/69	20.	33.	NW	36.
08/18/70	20.	35.	SW	38.
02/22/71	20.	33.	SW	36.
01/25/72	20.	36.	NW	39.
06/15/73	20.	38.	SW	42.
01/28/74	20.	66.	W	72.
03/24/75	20.	42.	SW	46.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2, DISTRIBUTION (GAMMA = 12.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	45.80	46.21	1.61	1.62
3.0	50.21	50.79	1.98	2.06
4.0	53.13	53.71	2.26	2.43
5.0	55.35	55.88	2.48	2.73
6.0	57.15	57.60	2.66	2.97
7.0	58.67	59.03	2.82	3.19
8.0	59.99	60.26	2.95	3.37
9.0	61.15	61.33	3.07	3.53
10.0	62.20	62.28	3.18	3.68
20.0	69.17	68.42	3.89	4.65
30.0	73.38	71.95	4.31	5.22
35.0	75.01	73.29	4.47	5.44
40.0	76.44	74.44	4.60	5.62
50.0	78.85	76.37	4.83	5.94
60.0	80.85	77.94	5.02	6.20
70.0	82.56	79.26	5.18	6.41
80.0	84.07	80.41	5.32	6.60
90.0	85.40	81.42	5.45	6.77
100.0	86.61	82.32	5.56	6.92
200.0	94.80	88.26	6.28	7.90
300.0	99.81	91.72	6.71	8.48
400.0	103.47	94.18	7.01	8.89
500.0	106.37	96.08	7.24	9.20
600.0	108.77	97.64	7.44	9.46
700.0	110.83	98.96	7.60	9.68
800.0	112.64	100.10	7.74	9.87
900.0	114.25	101.10	7.86	10.04
1000.0	115.71	102.00	7.98	10.19
2000.0	125.61	107.91	8.71	11.18
3000.0	131.67	111.37	9.14	11.76
4000.0	136.09	113.83	9.44	12.17
5000.0	139.60	115.73	9.68	12.49
6000.0	142.51	117.29	9.87	12.75
7000.0	145.01	118.60	10.04	12.97
8000.0	147.20	119.74	10.18	13.17
9000.0	149.15	120.74	10.30	13.33
10000.0	150.91	121.64	10.42	13.49
50000.0	179.85	135.37	12.13	15.79
100000.0	193.56	141.28	12.87	16.79
500000.0	228.64	155.02	14.58	19.10
1000000.0	245.25	160.94	15.32	20.10

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KNOXVILLE,TENN. (1942-1974)

        THE SAMPLE NUMBER OF OBSERVATIONS =       33.00
        THE SAMPLE MEAN                   =       48.84
        THE SAMPLE STANDARD DEVIATION     =        6.88
        THE SAMPLE MINIMUM                =       37.22
        THE SAMPLE MAXIMUM                =       65.91

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

07/10/42      53.                47. NW                     44.
09/15/43      53.                56.  W                     52.
04/11/44      53.                71. SW                     66.
06/14/45      71.                56. SW                     50.
02/10/46      71.                47. SW                     42.
03/24/47      71.                61. SW                     54.
06/24/48      71.                65.  W                     58.
01/19/49      71.                43. SW                     38.
04/04/50      71.                50.  W                     45.
06/22/51      71.                54. NW                     48.
05/10/52      47.                59. SW                     56.
04/30/53      73.                62. SW                     55.
07/05/54      73.                56.  W                     50.
01/13/55      73.                56. SW                     50.
04/15/56      73.                69.  W                     61.
04/08/57      73.                50.  W                     45.
02/28/58      73.                61. SW                     54.
01/21/59      73.                60. SW                     53.
04/26/60      73.                61. SW                     54.
02/25/61      73.                60. SW                     53.
01/06/62      73.                53. SW                     47.
03/11/63      73.                59.  W                     53.
03/10/64      20.                41. SW                     45.
03/25/65      20.                40. NW                     44.
04/30/66      20.                38.  W                     42.
02/16/67      20.                35.  W                     38.
12/28/68      20.                38. SW                     42.
03/24/69      20.                47. SW                     51.
06/18/70      20.                46.  N                     50.
03/19/71      20.                34.  W                     37.
05/19/72      20.                38. NE                     42.
12/13/73      20.                38.  W                     42.
04/04/74      20.                46.  W                     50.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	47.78	1.10	1.10
3.0	50.79	1.34	1.40
4.0	52.71	1.53	1.65
5.0	54.13	1.68	1.85
6.0	55.26	1.81	2.02
7.0	56.20	1.91	2.16
8.0	57.00	2.00	2.29
9.0	57.71	2.09	2.40
10.0	58.33	2.16	2.50
20.0	62.36	2.64	3.16
30.0	64.68	2.92	3.55
33.0	65.22	2.99	3.64
40.0	66.31	3.13	3.82
50.0	67.57	3.28	4.03
60.0	68.60	3.41	4.21
70.0	69.47	3.52	4.36
80.0	70.23	3.62	4.49
90.0	70.89	3.70	4.60
100.0	71.48	3.77	4.70
200.0	75.38	4.27	5.37
300.0	77.65	4.56	5.76
400.0	79.26	4.76	6.04
500.0	80.52	4.92	6.25
600.0	81.54	5.05	6.43
700.0	82.40	5.16	6.58
800.0	83.15	5.26	6.71
900.0	83.81	5.34	6.82
1000.0	84.40	5.42	6.92
2000.0	88.28	5.92	7.60
3000.0	90.55	6.21	7.99
4000.0	92.16	6.41	8.27
5000.0	93.41	6.58	8.49
6000.0	94.43	6.71	8.66
7000.0	95.29	6.82	8.81
8000.0	96.04	6.91	8.94
9000.0	96.70	7.00	9.06
10000.0	97.29	7.08	9.16
50000.0	106.30	8.24	10.73
100000.0	110.18	8.74	11.41
500000.0	119.20	9.91	12.98
1000000.0	123.08	10.41	13.65

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     MEMPHIS,TENN. (1951-1971)


         THE SAMPLE NUMBER OF OBSERVATIONS =      21.00
         THE SAMPLE MEAN                   =      45.43
         THE SAMPLE STANDARD DEVIATION     =       6.24
         THE SAMPLE MINIMUM                =      37.30
         THE SAMPLE MAXIMUM                =      60.74


  DATE    ANEMOMETER    FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
         ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                        AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

06/07/51     55.              50.  S                       46.
03/22/52     55.              54.  S                       50.
05/11/53     55.              50. NW                       46.
12/05/54     55.              43.  N                       40.
10/28/55     55.              47.  W                       43.
02/25/56     55.              46.  S                       42.
04/03/57     55.              44.  S                       41.
04/24/58     55.              46. NW                       42.
11/24/59     23.              35. NW                       37.
05/20/60     23.              45.  W                       48.
03/08/61     23.              35.  W                       37.
07/06/62     23.              39. NE                       42.
07/17/63     23.              38.  N                       40.
07/11/64     23.              56. NW                       60.
02/11/65     23.              43.  W                       46.
11/10/66     23.              38.  S                       40.
08/03/67     23.              42. NE                       45.
09/09/68     23.              47. SE                       50.
07/02/69     23.              45. NW                       48.
04/19/70     23.              57.  W                       61.
04/23/71     23.              46.  W                       49.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2, DISTRIBUTION (GAMMA = 10.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	44.21	44.50	1.25	1.25
3.0	46.89	47.28	1.53	1.59
4.0	48.68	49.06	1.74	1.87
5.0	50.05	50.38	1.91	2.11
6.0	51.16	51.42	2.06	2.30
7.0	52.10	52.29	2.18	2.46
8.0	52.92	53.04	2.28	2.61
9.0	53.65	53.69	2.37	2.73
10.0	54.30	54.26	2.46	2.84
20.0	58.68	58.00	3.00	3.59
21.0	59.00	58.25	3.04	3.65
30.0	61.35	60.14	3.33	4.03
40.0	63.30	61.66	3.56	4.35
50.0	64.84	62.82	3.74	4.59
60.0	66.13	63.78	3.88	4.79
70.0	67.24	64.58	4.01	4.96
80.0	68.21	65.28	4.11	5.10
90.0	69.07	65.89	4.21	5.23
100.0	69.85	66.44	4.29	5.35
200.0	75.21	70.05	4.85	6.11
300.0	78.51	72.16	5.18	6.55
400.0	80.93	73.65	5.42	6.87
500.0	82.86	74.81	5.60	7.11
600.0	84.47	75.75	5.75	7.31
700.0	85.85	76.55	5.87	7.48
800.0	87.07	77.24	5.98	7.63
900.0	88.15	77.85	6.08	7.76
1000.0	89.13	78.40	6.16	7.88
2000.0	95.85	82.00	6.73	8.64
3000.0	100.00	84.10	7.06	9.09
4000.0	103.05	85.59	7.30	9.41
5000.0	105.48	86.75	7.48	9.66
6000.0	107.50	87.69	7.63	9.86
7000.0	109.24	88.49	7.76	10.03
8000.0	110.77	89.18	7.87	10.18
9000.0	112.13	89.79	7.96	10.31
10000.0	113.37	90.34	8.05	10.42
50000.0	133.94	98.68	9.37	12.21
100000.0	143.87	102.27	9.94	12.98
500000.0	169.79	110.62	11.27	14.77
1000000.0	182.29	114.22	11.84	15.54

NASHVILLE,TENN. (1942-1975). REFER TO SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 34.00
THE SAMPLE MEAN = 46.78
THE SAMPLE STANDARD DEVIATION = 8.03
THE SAMPLE MINIMUM = 36.72
THE SAMPLE MAXIMUM = 70.15

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
06/13/42	73.	49.	W	44.
02/26/43	73.	47.	NW	42.
06/14/44	73.	42.	W	37.
03/26/45	73.	47.	S	42.
12/29/46	57.	42.	W	39.
03/24/47	57.	56.	W	51.
07/22/48	42.	58.	NW	56.
01/27/49	42.	56.	SW	54.
05/29/50	42.	47.	NW	45.
06/22/51	42.	57.	W	55.
06/30/52	42.	71.	NW	68.
06/13/53	42.	73.	NW	70.
08/02/54	42.	42.	N	40.
04/24/55	42.	52.	W	50.
02/17/56	42.	47.	NW	45.
07/09/57	42.	42.	N	40.
04/27/58	42.	61.	W	59.
01/20/59	42.	42.	S	40.
06/29/60	42.	51.	N	49.
05/08/61	42.	43.	SW	41.
02/27/62	42.	49.	NW	47.
07/07/63	39.	52.	NW	51.
06/15/64	39.	47.	NW	46.
07/02/65	25.	47.	NW	49.
07/07/66	25.	50.	NW	52.
02/15/67	25.	36.	SW	38.
04/04/68	25.	42.	SW	44.
07/27/69	25.	42.	W	44.
03/03/70	25.	38.	SE	40.
12/10/71	25.	42.	S	44.
04/07/72	25.	46.	NW	48.
12/26/73	25.	37.	SW	39.
03/29/74	25.	35.	W	37.
01/10/75	25.	42.	S	44.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 8.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	45.07	45.54	1.26	1.26
3.0	48.39	49.06	1.55	1.61
4.0	50.64	51.31	1.76	1.90
5.0	52.37	52.98	1.94	2.13
6.0	53.78	54.31	2.08	2.32
7.0	54.98	55.41	2.20	2.49
8.0	56.03	56.36	2.31	2.63
9.0	56.96	57.18	2.40	2.76
10.0	57.80	57.91	2.48	2.88
20.0	63.52	62.64	3.04	3.63
30.0	67.05	65.37	3.37	4.08
34.0	68.17	66.20	3.47	4.22
40.0	69.65	67.28	3.60	4.40
50.0	71.72	68.77	3.78	4.64
60.0	73.46	69.98	3.93	4.84
70.0	74.96	71.00	4.05	5.01
80.0	76.28	71.88	4.16	5.16
90.0	77.46	72.66	4.26	5.29
100.0	78.53	73.35	4.34	5.41
200.0	85.93	77.92	4.91	6.17
300.0	90.55	80.59	5.24	6.63
400.0	93.98	82.49	5.48	6.94
500.0	96.72	83.95	5.66	7.19
600.0	99.02	85.15	5.81	7.40
700.0	101.01	86.17	5.94	7.57
800.0	102.76	87.05	6.05	7.72
900.0	104.33	87.82	6.15	7.85
1000.0	105.75	88.51	6.23	7.97
2000.0	115.58	93.07	6.81	8.74
3000.0	121.75	95.73	7.14	9.19
4000.0	126.31	97.62	7.38	9.51
5000.0	129.97	99.09	7.57	9.76
6000.0	133.03	100.29	7.72	9.97
7000.0	135.68	101.30	7.84	10.14
8000.0	138.01	102.18	7.96	10.29
9000.0	140.10	102.95	8.05	10.42
10000.0	141.99	103.65	8.14	10.54
50000.0	174.29	114.22	9.48	12.34
100000.0	190.32	118.77	10.06	13.12
500000.0	233.43	129.36	11.40	14.93
1000000.0	254.81	133.91	11.98	15.71

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ABILENE,TEXAS (1944-1977). REFER TO SECT. 2.2

      THE SAMPLE NUMBER OF OBSERVATIONS =       34.00
      THE SAMPLE MEAN                   =       54.72
      THE SAMPLE STANDARD DEVIATION     =       10.48
      THE SAMPLE MINIMUM                =       40.25
      THE SAMPLE MAXIMUM                =       99.94

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
           ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

06/05/44      59.                  50.  N                     46.
06/09/45      59.                  59. SW                     54.
03/07/46      59.                  66. NW                     60.
03/14/47      59.                  61.  N                     56.
02/26/48      59.                  44.  W                     40.
05/25/49      58.                  73.  N                     67.
05/13/50      58.                  68. NE                     62.
06/10/51      58.                 109. NW                    100.
03/21/52      58.                  61. NW                     56.
03/26/53      58.                  71.  S                     65.
05/06/54      60.                  61. NW                     56.
06/29/55      60.                  58.  S                     53.
02/24/56      60.                  60. NW                     55.
05/08/57      60.                  54.  W                     49.
04/20/58      60.                  49. NW                     45.
06/11/59      60.                  47. SW                     43.
02/09/60      60.                  52.  W                     47.
06/04/61      20.                  57. NE                     62.
06/09/62      20.                  46. NW                     50.
06/19/63      20.                  55. NW                     60.
08/20/64      20.                  46. NW                     50.
12/23/65      20.                  54.  W                     59.
03/22/66      20.                  41. NW                     45.
01/06/67      20.                  42.  N                     46.
05/10/68      20.                  45. NW                     49.
06/23/69      20.                  47.  N                     51.
04/26/70      20.                  50. SW                     55.
10/22/71      20.                  58. NE                     63.
06/28/72      20.                  51. NE                     56.
03/10/73      20.                  49. SW                     54.
04/10/74      20.                  42.  S                     46.
06/09/75      20.                  54.  N                     59.
04/15/76      20.                  49. SE                     54.
02/23/77      20.                  42.  W                     46.
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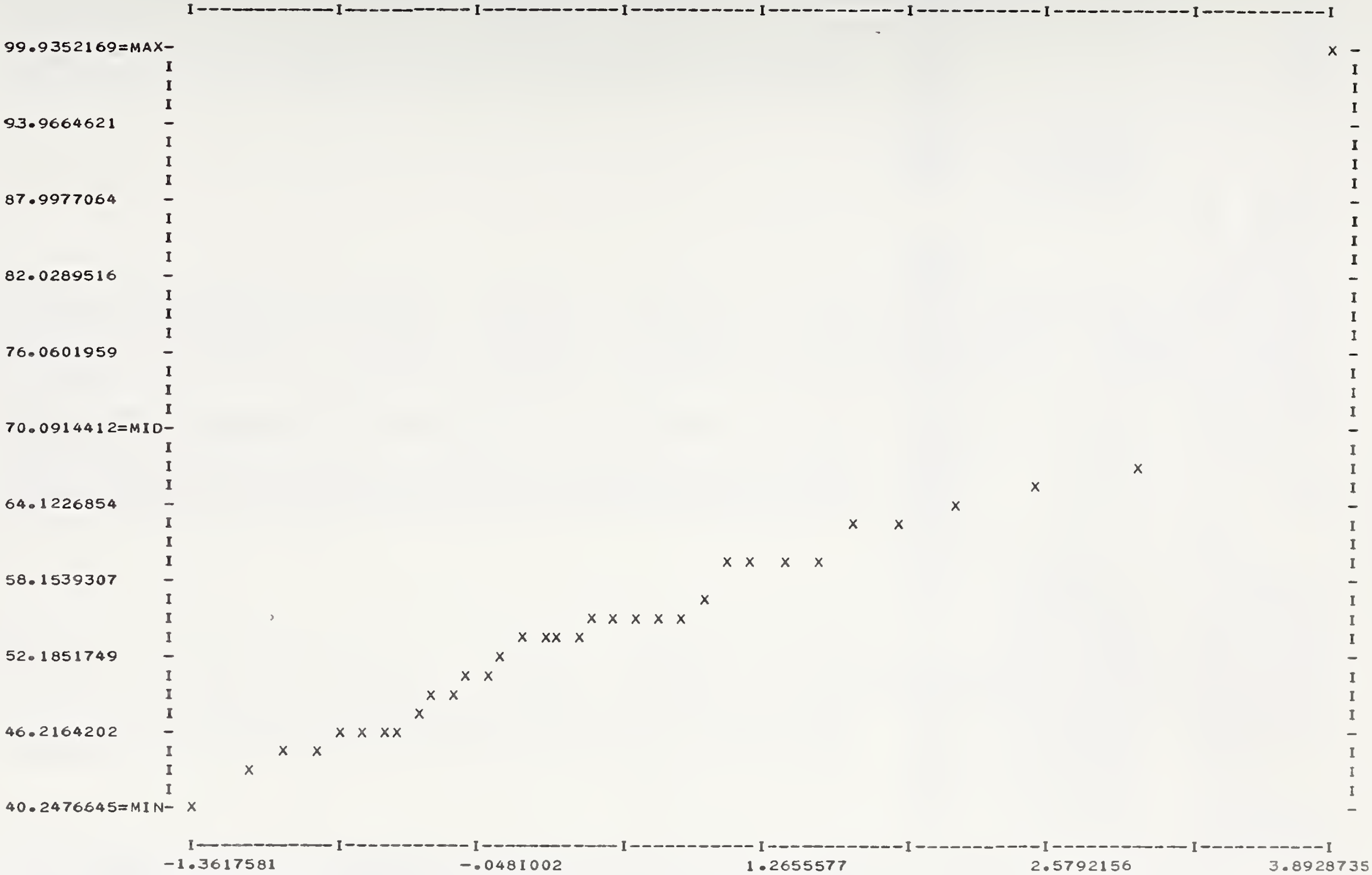
RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2, DISTRIBUTION (GAMMA = 3.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	51.81	53.19	1.65	1.65
3.0	55.33	57.52	2.02	2.10
4.0	57.94	60.30	2.30	2.47
5.0	60.07	62.35	2.53	2.78
6.0	61.90	63.99	2.71	3.03
7.0	63.52	65.34	2.87	3.25
8.0	64.97	66.50	3.01	3.44
9.0	66.30	67.52	3.13	3.60
10.0	67.53	68.42	3.24	3.75
20.0	76.68	74.24	3.96	4.74
30.0	83.02	77.59	4.39	5.32
34.0	85.15	78.62	4.52	5.50
40.0	88.05	79.95	4.69	5.74
50.0	92.29	81.77	4.93	6.06
60.0	95.99	83.26	5.12	6.32
70.0	99.29	84.52	5.29	6.54
80.0	102.29	85.61	5.43	6.73
90.0	105.05	86.56	5.55	6.90
100.0	107.61	87.42	5.67	7.05
200.0	126.87	93.05	6.41	8.06
300.0	140.37	96.33	6.84	8.64
400.0	151.11	98.66	7.15	9.06
500.0	160.18	100.47	7.39	9.39
600.0	168.10	101.94	7.58	9.65
700.0	175.19	103.19	7.75	9.87
800.0	181.63	104.27	7.89	10.07
900.0	187.55	105.22	8.02	10.24
1000.0	193.05	106.08	8.13	10.39
2000.0	234.45	111.68	8.88	11.40
3000.0	263.50	114.96	9.32	11.99
4000.0	286.62	117.29	9.63	12.41
5000.0	306.14	119.09	9.87	12.74
6000.0	323.21	120.57	10.07	13.01
7000.0	338.47	121.81	10.24	13.23
8000.0	352.34	122.89	10.38	13.43
9000.0	365.09	123.85	10.51	13.60
10000.0	376.94	124.70	10.62	13.75
50000.0	620.56	137.71	12.37	16.11
100000.0	773.07	143.32	13.12	17.12
500000.0	1298.55	156.34	14.87	19.48
1000000.0	1627.28	161.95	15.63	20.50



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EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =    .15618669+01)               THE SAMPLE SIZE N =      34
PROBABILITY PLOT CORRELATION COEFFICIENT =   .93065     ESTIMATED INTERCEPT =    .50222847+02   ESTIMATED SLOPE =    .80861189+01
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AMARILLO,TEXAS (1941-1974). REFER TO SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 34.00
THE SAMPLE MEAN = 61.00
THE SAMPLE STANDARD DEVIATION = 7.13
THE SAMPLE MINIMUM = 47.95
THE SAMPLE MAXIMUM = 80.72

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
04/13/41	42.	60.	S	58.
04/30/42	42.	74.	SW	71.
02/09/43	42.	68.	SW	65.
05/31/44	42.	60.	W	58.
04/10/45	42.	61.	S	59.
08/18/46	42.	65.	E	62.
05/14/47	42.	72.	W	69.
07/16/48	42.	66.	SW	63.
05/15/49	42.	84.	SW	81.
03/26/50	42.	72.	W	69.
04/29/51	42.	56.	SW	54.
03/12/52	42.	66.	W	63.
05/10/53	42.	66.	W	63.
02/19/54	42.	57.	N	55.
10/23/55	42.	63.	N	61.
02/24/56	42.	70.	NW	67.
03/24/57	33.	59.	NW	59.
07/12/58	33.	56.	W	56.
03/14/59	33.	54.	SW	54.
02/09/60	33.	66.	W	66.
06/02/61	23.	45.	SE	48.
03/24/62	23.	52.	N	55.
03/18/63	23.	63.	W	67.
06/11/64	23.	47.	SW	50.
09/09/65	23.	52.	SE	55.
05/08/66	23.	46.	NE	49.
01/06/67	23.	54.	NW	58.
04/19/68	23.	50.	W	53.
06/07/69	23.	59.	NW	63.
11/08/70	23.	59.	NW	63.
06/05/71	23.	54.	SW	58.
06/21/72	23.	64.	NE	68.
03/13/73	23.	65.	SW	69.
08/09/74	23.	60.	NW	64.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	59.90	1.12	1.12
3.0	63.01	1.37	1.43
4.0	64.99	1.57	1.68
5.0	66.47	1.72	1.89
6.0	67.64	1.85	2.06
7.0	68.61	1.95	2.21
8.0	69.44	2.05	2.34
9.0	70.17	2.13	2.45
10.0	70.81	2.20	2.55
20.0	74.98	2.70	3.23
30.0	77.38	2.99	3.62
34.0	78.12	3.08	3.74
40.0	79.07	3.19	3.90
50.0	80.38	3.35	4.12
60.0	81.45	3.49	4.30
70.0	82.35	3.60	4.45
80.0	83.13	3.69	4.58
90.0	83.81	3.78	4.70
100.0	84.43	3.86	4.80
200.0	88.45	4.36	5.48
300.0	90.81	4.65	5.88
400.0	92.48	4.86	6.17
500.0	93.77	5.03	6.39
600.0	94.83	5.16	6.57
700.0	95.72	5.27	6.72
800.0	96.50	5.37	6.85
900.0	97.18	5.46	6.97
1000.0	97.79	5.53	7.07
2000.0	101.81	6.04	7.76
3000.0	104.16	6.34	8.16
4000.0	105.82	6.55	8.45
5000.0	107.12	6.72	8.67
6000.0	108.17	6.85	8.85
7000.0	109.07	6.96	9.00
8000.0	109.84	7.06	9.14
9000.0	110.52	7.15	9.25
10000.0	111.13	7.23	9.36
50000.0	120.45	8.41	10.96
100000.0	124.47	8.93	11.65
500000.0	133.80	10.12	13.26
1000000.0	137.82	10.63	13.95

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    AUSTIN,TEXAS (1943-1977)

          THE SAMPLE NUMBER OF OBSERVATIONS =       35.00
          THE SAMPLE MEAN                   =       45.06
          THE SAMPLE STANDARD DEVIATION     =        5.48
          THE SAMPLE MINIMUM                =       31.14
          THE SAMPLE MAXIMUM                =       58.02

   DATE      ANEMOMETER      FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

 01/25/43      41.              40.  N                        39.
 05/01/44      41.              49. SE                        47.
 05/12/45      41.              45. SW                        43.
 05/31/46      41.              52. NE                        50.
 02/07/47      41.              57.  N                        55.
 01/23/48      41.              44.  N                        42.
 04/15/49      41.              40. NE                        39.
 05/31/50      41.              43.  S                        41.
 11/05/51      41.              48. NW                        46.
 09/17/52      41.              41.  N                        40.
 12/02/53      41.              47.  W                        45.
 02/27/54      41.              45.  N                        43.
 03/25/55      41.              42.  N                        41.
 02/17/56      41.              52. NW                        50.
 04/26/57      41.              44. NE                        42.
 02/26/58      32.              31.  W                        31.
 08/31/59      32.              47.  N                        47.
 04/02/60      32.              36. NE                        36.
 09/11/61      20.              45. NE                        49.
 01/05/62      20.              47.  N                        51.
 02/02/63      20.              45.  N                        49.
 03/09/64      20.              38. NW                        42.
 05/17/65      20.              40. SE                        44.
 06/13/66      20.              43. NW                        47.
 10/29/67      20.              47. NW                        51.
 12/27/68      20.              42.  W                        46.
 08/14/69      20.              53. NW                        58.
 03/16/70      20.              38. NW                        42.
 02/21/71      20.              43. NW                        47.
 05/01/72      20.              49.  N                        54.
 01/28/73      20.              38. NW                        42.
 05/31/74      20.              42.  N                        46.
 05/23/75      20.              40.  E                        44.
 05/12/76      20.              41. NW                        45.
 09/19/77      20.              38. NE                        42.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	44.22	.85	.85
3.0	46.59	1.04	1.08
4.0	48.12	1.19	1.27
5.0	49.24	1.30	1.43
6.0	50.14	1.40	1.56
7.0	50.88	1.48	1.67
8.0	51.52	1.55	1.77
9.0	52.08	1.61	1.86
10.0	52.57	1.67	1.93
20.0	55.76	2.04	2.44
30.0	57.60	2.26	2.74
35.0	58.29	2.35	2.86
40.0	58.89	2.42	2.96
50.0	59.89	2.54	3.12
60.0	60.71	2.64	3.26
70.0	61.40	2.72	3.37
80.0	62.00	2.80	3.47
90.0	62.52	2.86	3.56
100.0	62.99	2.92	3.64
200.0	66.08	3.30	4.15
300.0	67.88	3.53	4.46
400.0	69.15	3.68	4.67
500.0	70.14	3.81	4.84
600.0	70.95	3.91	4.97
700.0	71.64	3.99	5.09
800.0	72.23	4.07	5.19
900.0	72.75	4.13	5.28
1000.0	73.22	4.19	5.36
2000.0	76.30	4.58	5.88
3000.0	78.09	4.80	6.18
4000.0	79.37	4.96	6.40
5000.0	80.36	5.09	6.57
6000.0	81.17	5.19	6.70
7000.0	81.85	5.28	6.82
8000.0	82.44	5.35	6.92
9000.0	82.97	5.42	7.01
10000.0	83.43	5.47	7.09
50000.0	90.57	6.37	8.30
100000.0	93.64	6.76	8.82
500000.0	100.79	7.67	10.04
1000000.0	103.86	8.05	10.56

BROWNSVILLE, TEXAS (1943-1977)   CAUTION -- SEE APPENDIX 1 AND SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 35.00
THE SAMPLE MEAN = 43.68
THE SAMPLE STANDARD DEVIATION = 8.07
THE SAMPLE MINIMUM = 32.24
THE SAMPLE MAXIMUM = 66.06

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
05/28/43	56.	38. SE	35.
04/02/44	56.	48. N	44.
08/26/45	56.	57. NW	53.
04/30/46	56.	47. E	43.
05/23/47	56.	57. SE	53.
03/15/48	56.	42. S	39.
04/30/49	56.	37. SE	34.
05/19/50	56.	47. S	43.
01/14/51	56.	40. NW	37.
02/25/52	56.	45. N	41.
01/15/53	56.	43. S	40.
06/25/54	56.	52. E	48.
01/18/55	56.	42. NW	39.
03/07/56	56.	45. N	41.
11/07/57	56.	35. N	32.
04/08/58	56.	43. SE	40.
04/27/59	56.	36. S	33.
04/13/60	56.	52. SE	48.
04/30/61	43.	44. SE	42.
05/01/62	43.	39. E	37.
11/08/63	43.	40. NW	38.
03/09/64	43.	40. NW	38.
02/24/65	43.	55. NW	53.
11/01/66	43.	38. N	36.
09/20/67	43.	69. NE	66.
05/04/68	43.	66. NW	63.
05/12/69	43.	59. E	56.
01/29/70	43.	36. N	34.
03/02/71	43.	45. N	43.
04/28/72	20.	47. SE	51.
03/13/73	20.	42. SE	46.
04/10/74	20.	40. S	44.
05/25/75	20.	42. SE	46.
02/17/76	20.	38. S	42.
06/21/77	20.	45. SE	49.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 20.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	42.23	42.42	1.25	1.25
3.0	45.71	45.98	1.53	1.59
4.0	48.00	48.26	1.75	1.88
5.0	49.71	49.95	1.92	2.11
6.0	51.09	51.29	2.06	2.30
7.0	52.25	52.41	2.18	2.46
8.0	53.24	53.36	2.28	2.61
9.0	54.12	54.20	2.38	2.73
10.0	54.90	54.94	2.46	2.85
20.0	60.07	59.72	3.01	3.60
30.0	63.13	62.47	3.33	4.04
35.0	64.30	63.51	3.45	4.21
40.0	65.33	64.41	3.56	4.35
50.0	67.04	65.91	3.74	4.59
60.0	68.46	67.13	3.89	4.79
70.0	69.67	68.16	4.01	4.96
80.0	70.72	69.05	4.12	5.11
90.0	71.65	69.84	4.21	5.24
100.0	72.49	70.55	4.30	5.35
200.0	78.10	75.17	4.86	6.11
300.0	81.47	77.86	5.19	6.56
400.0	83.90	79.78	5.42	6.87
500.0	85.81	81.26	5.60	7.12
600.0	87.39	82.47	5.75	7.32
700.0	88.73	83.50	5.88	7.49
800.0	89.90	84.39	5.99	7.64
900.0	90.94	85.17	6.08	7.77
1000.0	91.88	85.87	6.17	7.88
2000.0	98.16	90.48	6.74	8.65
3000.0	101.93	93.17	7.07	9.10
4000.0	104.66	95.08	7.31	9.42
5000.0	106.80	96.56	7.49	9.66
6000.0	108.57	97.78	7.64	9.87
7000.0	110.07	98.80	7.76	10.04
8000.0	111.39	99.69	7.87	10.19
9000.0	112.56	100.47	7.97	10.32
10000.0	113.61	101.17	8.06	10.43
50000.0	130.34	111.86	9.38	12.22
100000.0	137.98	116.46	9.95	12.99
500000.0	156.77	127.16	11.28	14.78
1000000.0	165.34	131.77	11.86	15.55

CORPUS CHRISTI, TEXAS (1943-1976) CAUTION -- SEE APPENDIX 1 AND SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 34.00
THE SAMPLE MEAN = 54.50
THE SAMPLE STANDARD DEVIATION = 15.66
THE SAMPLE MINIMUM = 43.69
THE SAMPLE MAXIMUM = 127.88

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
01/04/43	31.	59. NE	60.
04/09/44	31.	49. SE	49.
08/26/45	31.	70. N	71.
01/04/46	31.	50. NW	50.
05/20/47	31.	65. NW	66.
04/25/48	31.	47. N	47.
02/13/49	31.	48. SE	48.
03/31/50	31.	56. S	57.
05/11/51	31.	54. SE	55.
05/28/52	31.	50. W	50.
03/30/53	31.	45. S	45.
10/22/54	31.	46. N	46.
10/07/55	31.	46. N	46.
03/07/56	24.	42. N	44.
03/24/57	24.	45. W	48.
01/05/58	24.	42. NE	44.
12/31/59	24.	42. SE	44.
10/16/60	23.	42. NE	45.
09/11/61	23.	63. NW	67.
06/01/62	23.	56. SE	60.
04/16/63	23.	48. SE	51.
03/09/64	23.	45. NW	48.
02/24/65	23.	42. N	45.
04/14/66	23.	45. S	48.
09/20/67	23.	72. E	77.
03/11/68	23.	45. NW	48.
12/06/69	23.	42. W	45.
08/03/70	23.	120. SW	128.
09/10/71	23.	66. NW	70.
04/28/72	23.	47. SE	50.
04/15/73	23.	43. SE	46.
05/26/74	23.	54. N	58.
05/24/75	23.	49. SE	52.
04/29/76	23.	41. N	44.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 2.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	49.55	52.35	2.46	2.47
3.0	53.92	58.42	3.01	3.13
4.0	57.41	62.31	3.44	3.70
5.0	60.40	65.18	3.77	4.15
6.0	63.06	67.47	4.05	4.53
7.0	65.49	69.37	4.29	4.85
8.0	67.74	70.99	4.50	5.14
9.0	69.84	72.42	4.68	5.39
10.0	71.81	73.68	4.84	5.61
20.0	87.63	81.82	5.92	7.08
30.0	99.66	86.51	6.56	7.95
34.0	103.88	87.95	6.76	8.22
40.0	109.77	89.82	7.01	8.57
50.0	118.66	92.37	7.37	9.05
60.0	126.70	94.45	7.66	9.44
70.0	134.08	96.21	7.90	9.77
80.0	140.94	97.73	8.11	10.06
90.0	147.39	99.08	8.30	10.31
100.0	153.49	100.27	8.47	10.54
200.0	202.64	108.15	9.57	12.04
300.0	240.34	112.75	10.22	12.92
400.0	272.10	116.01	10.68	13.54
500.0	300.08	118.54	11.04	14.02
600.0	325.38	120.60	11.33	14.42
700.0	348.64	122.35	11.58	14.75
800.0	370.28	123.86	11.79	15.04
900.0	390.62	125.20	11.98	15.30
1000.0	409.85	126.39	12.15	15.53
2000.0	565.05	134.24	13.27	17.04
3000.0	684.13	138.83	13.92	17.92
4000.0	784.52	142.09	14.39	18.55
5000.0	872.98	144.61	14.75	19.04
6000.0	952.94	146.68	15.04	19.43
7000.0	1026.48	148.42	15.29	19.77
8000.0	1094.91	149.93	15.51	20.06
9000.0	1159.19	151.27	15.70	20.32
10000.0	1220.02	152.46	15.87	20.55
50000.0	2684.44	170.68	18.48	24.07
100000.0	3781.76	178.52	19.60	25.58
500000.0	8418.87	196.76	22.22	29.11
1000000.0	11891.46	204.61	23.35	30.63

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  DALLAS,TEXAS (1941-1972)

        THE SAMPLE NUMBER OF OBSERVATIONS =       32.00
        THE SAMPLE MEAN                   =       49.14
        THE SAMPLE STANDARD DEVIATION     =        6.45
        THE SAMPLE MINIMUM                =       39.41
        THE SAMPLE MAXIMUM                =       66.77

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

02/12/41     45.               51.  S                         48.
03/06/42     45.               47.  S                         45.
03/24/43     45.               48.  E                         46.
04/08/44     45.               47. SE                         45.
03/19/45     45.               45.  W                         43.
05/15/46     45.               56. NW                         53.
04/10/47     45.               45.  W                         43.
02/27/48     45.               61.  W                         58.
05/26/49     45.               48. SW                         46.
01/24/50     45.               45.  S                         43.
03/02/51     45.               50.  S                         48.
04/12/52     45.               52. SW                         49.
05/11/53     45.               48.  S                         46.
06/15/54     45.               65.  N                         62.
06/08/55     45.               49.  W                         47.
04/14/56     45.               54.  W                         51.
05/23/57     45.               50.  W                         48.
02/26/58     45.               57. SW                         54.
08/30/59     20.               47.  N                         51.
10/13/60     20.               61. NW                         67.
04/30/61     20.               54.  N                         59.
04/10/62     20.               42.  N                         46.
04/28/63     20.               42. NW                         46.
01/30/64     20.               45. SE                         49.
10/15/65     20.               39. SE                         43.
01/01/66     20.               50.  W                         55.
06/11/67     20.               53. SE                         58.
03/11/68     20.               45. NE                         49.
01/22/69     20.               36.  W                         39.
04/25/70     20.               42. NW                         46.
12/14/71     20.               36. SW                         39.
06/21/72     20.               47. NW                         51.
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                                             EXTREME VALUE ANALYSIS

                                          THE SAMPLE SIZE N =        32
                                       THE SAMPLE MEAN =        49.1358662
                                 THE SAMPLE STANDARD DEVIATION =        6.4456284
                                     THE SAMPLE MINIMUM =      39.4070892
                                     THE SAMPLE MAXIMUM =      66.7731237

    EXTREME VALUE           PROBABILITY PLOT       LOCATION           SCALE
  TYPE 2 TAIL LENGTH          CORRELATION          ESTIMATE          ESTIMATE
   PARAMETER (GAMMA)          COEFFICIENT

         1.00                   .77827            46.6776557          .5857531
         2.00                   .92806            41.5944028         4.6703537
         3.00                   .96609            36.1234212         9.9250727
         4.00                   .97961            30.6735301        15.3300055
         5.00                   .98568            25.2582979        20.7424667
         6.00                   .98884            19.8672862        26.1422174
         7.00                   .99065            14.4924254        31.5285747
         8.00                   .99177             9.1285863        36.9039116
         9.00                   .99250             3.7725177        42.2706208
        10.00                   .99300            -1.5778933        47.6306081
        11.00                   .99334            -6.9240746        52.9853253
        12.00                   .99359           -12.2670131        58.3358560
        13.00                   .99377           -17.6074181        63.6830211
        14.00                   .99390           -22.9458017        69.0274467
        15.00                   .99400           -28.2825527        74.3696146
        16.00                   .99408           -33.6179619        79.7099037
        17.00                   .99414           -38.9522638        85.0486164
        18.00                   .99418           -44.2856274        90.3859873
        19.00                   .99422           -49.6182098        95.7222195
        20.00                   .99424           -54.9501152       101.0574636
        21.00                   .99426           -60.2814369       106.3918505
        22.00                   .99428           -65.6122570       111.7254925
        23.00                   .99429           -70.9426403       117.0584812
        24.00                   .99430           -76.2726326       122.3908901
        25.00                   .99430           -81.6022911       127.7227888
        30.00                   .99431  MAX     -108.2466297       154.3762989
        35.00                   .99429          -134.8864555       181.0228710
        40.00                   .99427          -161.5234261       207.6650085
        45.00                   .99425          -188.1584873       234.3041515
        50.00                   .99423          -214.7922440       260.9412079
        60.00                   .99420          -268.0570107       314.2110023
        70.00                   .99417          -321.3194809       367.4771042
        80.00                   .99415          -374.5805244       420.7408981
        90.00                   .99413          -427.8405418       474.0030861
       100.00                   .99411          -481.0999146       527.2641907
       150.00                   .99405          -747.3911591       793.5607071
       200.00                   .99402         -1013.6783295      1059.8505554
       250.00                   .99401         -1279.9641876      1326.1380463
       350.00                   .99398         -1812.5334167      1858.7091522
       500.00                   .99397         -2611.3830566      2657.5602417
       750.00                   .99395         -3942.8013916      3988.9797668
      1000.00                   .99394         -5274.2183228      5320.3972778
     INFINITY                   .99392            46.1802206         5.3256643
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 30.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	48.03	48.13	1.04	1.05
3.0	50.85	50.99	1.28	1.33
4.0	52.68	52.82	1.46	1.57
5.0	54.04	54.17	1.60	1.76
6.0	55.14	55.24	1.72	1.92
7.0	56.06	56.14	1.82	2.06
8.0	56.85	56.90	1.91	2.18
9.0	57.54	57.57	1.99	2.29
10.0	58.16	58.16	2.05	2.38
20.0	62.20	62.00	2.51	3.01
30.0	64.57	64.20	2.78	3.37
32.0	64.94	64.55	2.83	3.43
40.0	66.26	65.76	2.98	3.64
50.0	67.57	66.96	3.13	3.84
60.0	68.65	67.94	3.25	4.01
70.0	69.57	68.77	3.35	4.15
80.0	70.37	69.48	3.44	4.27
90.0	71.08	70.11	3.52	4.38
100.0	71.71	70.68	3.59	4.47
200.0	75.93	74.38	4.06	5.11
300.0	78.45	76.55	4.34	5.48
400.0	80.25	78.08	4.53	5.75
500.0	81.66	79.27	4.68	5.95
600.0	82.82	80.24	4.81	6.12
700.0	83.80	81.07	4.91	6.26
800.0	84.66	81.78	5.00	6.38
900.0	85.42	82.40	5.08	6.49
1000.0	86.10	82.97	5.16	6.59
2000.0	90.64	86.66	5.63	7.23
3000.0	93.35	88.82	5.91	7.60
4000.0	95.29	90.35	6.11	7.87
5000.0	96.81	91.54	6.26	8.08
6000.0	98.06	92.51	6.38	8.25
7000.0	99.13	93.33	6.49	8.39
8000.0	100.05	94.04	6.58	8.51
9000.0	100.87	94.67	6.66	8.62
10000.0	101.61	95.23	6.73	8.72
50000.0	113.17	103.80	7.84	10.21
100000.0	118.35	107.49	8.32	10.86
500000.0	130.85	116.07	9.43	12.35
1000000.0	136.44	119.77	9.91	13.00

EL PASO, TEXAS (1943-1974)

THE SAMPLE NUMBER OF OBSERVATIONS = 32.00
THE SAMPLE MEAN = 55.36
THE SAMPLE STANDARD DEVIATION = 4.82
THE SAMPLE MINIMUM = 48.98
THE SAMPLE MAXIMUM = 66.67

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
03/15/43	85.	61. SW	53.
11/25/44	85.	57. W	50.
02/21/45	85.	57. SW	50.
03/15/46	85.	70. W	61.
06/17/47	85.	68. N	59.
03/01/48	85.	66. SW	58.
04/10/49	85.	66.	58.
05/04/50	85.	70. NW	61.
12/04/51	85.	66. W	58.
02/02/52	85.	59. W	52.
12/05/53	85.	61. W	53.
02/18/54	85.	66. NW	58.
04/23/55	85.	56. NW	49.
04/02/56	85.	57. W	50.
07/23/57	85.	61. S	53.
04/08/58	85.	66. W	58.
03/19/59	85.	56. NW	49.
02/03/60	85.	69. W	60.
04/08/61	85.	57. NW	50.
08/15/62	85.	61. NW	53.
03/18/63	85.	57. NW	50.
03/24/64	85.	56. W	49.
03/16/65	37.	56. W	55.
07/27/66	37.	68. NE	67.
04/13/67	37.	61. W	60.
02/20/68	37.	61. W	60.
03/23/69	37.	53. SW	52.
12/15/70	37.	66. W	65.
02/03/71	37.	56. SW	55.
07/12/72	37.	57. N	56.
04/18/73	37.	54. SW	53.
04/02/74	37.	59. W	58.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	54.62	.78	.78
3.0	56.73	.96	1.00
4.0	58.08	1.09	1.17
5.0	59.07	1.20	1.32
6.0	59.87	1.29	1.44
7.0	60.53	1.36	1.54
8.0	61.09	1.43	1.63
9.0	61.58	1.49	1.71
10.0	62.02	1.54	1.78
20.0	64.85	1.88	2.25
30.0	66.47	2.08	2.53
32.0	66.73	2.12	2.57
40.0	67.62	2.23	2.72
50.0	68.51	2.34	2.87
60.0	69.23	2.43	3.00
70.0	69.84	2.51	3.10
80.0	70.37	2.58	3.20
90.0	70.83	2.64	3.28
100.0	71.25	2.69	3.35
200.0	73.98	3.04	3.82
300.0	75.58	3.25	4.10
400.0	76.71	3.39	4.30
500.0	77.58	3.51	4.45
600.0	78.30	3.60	4.58
700.0	78.91	3.68	4.69
800.0	79.43	3.75	4.78
900.0	79.89	3.81	4.86
1000.0	80.31	3.86	4.93
2000.0	83.03	4.21	5.41
3000.0	84.62	4.42	5.69
4000.0	85.75	4.57	5.89
5000.0	86.63	4.68	6.05
6000.0	87.35	4.78	6.17
7000.0	87.95	4.86	6.28
8000.0	88.48	4.93	6.37
9000.0	88.94	4.99	6.45
10000.0	89.35	5.04	6.53
50000.0	95.67	5.87	7.64
100000.0	98.40	6.23	8.13
500000.0	104.72	7.06	9.25
1000000.0	107.44	7.42	9.73

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PORT ARTHUR, TEXAS (1953-1977)   CAUTION -- SEE APPENDIX 1 AND SECT. 2.2

          THE SAMPLE NUMBER OF OBSERVATIONS =       25.00
          THE SAMPLE MEAN                   =       53.07
          THE SAMPLE STANDARD DEVIATION     =        9.57
          THE SAMPLE MINIMUM                =       38.60
          THE SAMPLE MAXIMUM                =       81.00

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

12/03/53      57.               69.  S                        63.
04/30/54      57.               49. SE                        45.
03/21/55      57.               50. NW                        46.
10/20/56      57.               65. NW                        60.
06/27/57      57.               72. NW                        66.
09/15/58      57.               42.  S                        39.
05/21/59      57.               51. SW                        47.
02/09/60      57.               56. SW                        51.
04/11/61      57.               56. NW                        51.
08/14/62      57.               56. NE                        51.
07/26/63      57.               66. SW                        61.
08/05/64      57.               73.  E                        67.
04/19/65      57.               60.  W                        55.
04/18/66      57.               60. NW                        55.
02/06/67      57.               49. NE                        45.
09/17/68      57.               55. SW                        51.
02/14/69      57.               62. SE                        57.
02/01/70      57.               49. SW                        45.
05/09/71      20.               74. SW                        81.
05/12/72      20.               52.  S                        57.
12/19/73      20.               49. NW                        54.
07/27/74      20.               40. NE                        44.
01/10/75      20.               45. NW                        49.
10/29/76      20.               40.  E                        44.
11/29/77      20.               39. NW                        43.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 11.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	51.20	51.61	1.75	1.76
3.0	55.32	55.88	2.15	2.23
4.0	58.07	58.62	2.45	2.63
5.0	60.16	60.65	2.69	2.96
6.0	61.86	62.26	2.89	3.23
7.0	63.29	63.60	3.06	3.46
8.0	64.54	64.74	3.20	3.66
9.0	65.64	65.74	3.33	3.84
10.0	66.63	66.63	3.45	4.00
20.0	73.26	72.37	4.22	5.05
25.0	75.45	74.19	4.47	5.39
30.0	77.27	75.67	4.68	5.67
40.0	80.19	78.00	5.00	6.11
50.0	82.51	79.80	5.25	6.45
60.0	84.43	81.27	5.46	6.73
70.0	86.08	82.51	5.63	6.96
80.0	87.52	83.58	5.78	7.17
90.0	88.81	84.52	5.91	7.35
100.0	89.97	85.37	6.03	7.51
200.0	97.90	90.92	6.82	8.58
300.0	102.76	94.16	7.28	9.20
400.0	106.32	96.45	7.61	9.65
500.0	109.15	98.23	7.87	9.99
600.0	111.50	99.69	8.08	10.28
700.0	113.52	100.92	8.25	10.52
800.0	115.29	101.99	8.40	10.72
900.0	116.87	102.92	8.54	10.90
1000.0	118.30	103.77	8.66	11.07
2000.0	128.04	109.29	9.46	12.14
3000.0	134.02	112.53	9.92	12.77
4000.0	138.41	114.82	10.25	13.22
5000.0	141.89	116.60	10.51	13.57
6000.0	144.79	118.06	10.72	13.85
7000.0	147.27	119.29	10.90	14.09
8000.0	149.45	120.35	11.05	14.30
9000.0	151.40	121.29	11.19	14.48
10000.0	153.16	122.13	11.31	14.64
50000.0	182.24	134.97	13.17	17.15
100000.0	196.14	140.49	13.97	18.23
500000.0	232.02	153.34	15.84	20.75
1000000.0	249.16	158.87	16.64	21.83

SAN ANTONIO, TEXAS (1941-1976)

THE SAMPLE NUMBER OF OBSERVATIONS = 36.00
THE SAMPLE MEAN = 46.97
THE SAMPLE STANDARD DEVIATION = 8.59
THE SAMPLE MINIMUM = 36.23
THE SAMPLE MAXIMUM = 79.52

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
05/02/41	63.	43.	NW	39.
08/30/42	22.	74.	NE	80.
07/27/43	51.	52.	NE	49.
05/24/44	51.	56.	W	52.
06/12/45	51.	43.	NW	40.
05/16/46	51.	73.	NW	68.
12/31/47	51.	48.	NW	45.
03/22/48	51.	52.	NW	49.
10/30/49	51.	42.	N	39.
11/03/50	51.	43.	N	40.
03/18/51	51.	45.	NE	42.
05/10/52	51.	52.	NE	49.
06/12/53	51.	59.	E	55.
02/27/54	31.	56.	N	57.
06/08/55	31.	57.	NE	58.
01/03/56	31.	43.	N	43.
09/12/57	31.	47.	NE	47.
02/26/58	31.	43.	NW	43.
06/05/59	31.	41.	NE	41.
02/09/60	31.	47.	NW	47.
09/11/61	23.	47.	N	50.
01/09/62	23.	37.	N	39.
01/23/63	23.	40.	N	43.
08/06/64	23.	45.	SE	48.
05/17/65	23.	49.	SE	52.
03/22/66	23.	39.	N	42.
03/06/67	23.	38.	N	40.
04/23/68	23.	42.	N	45.
07/21/69	23.	37.	E	39.
04/18/70	23.	45.	NW	48.
05/24/71	23.	43.	NW	46.
03/01/72	23.	34.	N	36.
03/28/73	23.	44.	N	47.
07/03/74	23.	35.	SE	37.
05/08/75	23.	46.	NE	49.
04/07/76	23.	43.	NW	46.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 3.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	44.51	45.66	1.31	1.31
3.0	47.46	49.33	1.61	1.67
4.0	49.65	51.68	1.83	1.97
5.0	51.44	53.42	2.01	2.21
6.0	52.97	54.80	2.16	2.41
7.0	54.33	55.95	2.29	2.59
8.0	55.55	56.93	2.40	2.74
9.0	56.67	57.79	2.49	2.87
10.0	57.70	58.56	2.58	2.99
20.0	65.37	63.48	3.16	3.78
30.0	70.70	66.32	3.50	4.24
36.0	73.32	67.58	3.65	4.45
40.0	74.92	68.31	3.74	4.57
50.0	78.47	69.86	3.93	4.82
60.0	81.57	71.12	4.08	5.03
70.0	84.35	72.18	4.21	5.21
80.0	86.86	73.10	4.32	5.36
90.0	89.18	73.91	4.42	5.50
100.0	91.33	74.64	4.51	5.62
200.0	107.49	79.40	5.10	6.42
300.0	118.81	82.18	5.45	6.88
400.0	127.82	84.15	5.69	7.22
500.0	135.43	85.68	5.88	7.47
600.0	142.08	86.93	6.04	7.68
700.0	148.02	87.98	6.17	7.86
800.0	153.42	88.90	6.28	8.02
900.0	158.39	89.70	6.39	8.15
1000.0	163.01	90.42	6.48	8.28
2000.0	197.75	95.17	7.07	9.08
3000.0	222.11	97.95	7.42	9.55
4000.0	241.51	99.91	7.67	9.88
5000.0	257.89	101.44	7.86	10.14
6000.0	272.21	102.69	8.02	10.36
7000.0	285.02	103.74	8.15	10.54
8000.0	296.65	104.66	8.26	10.69
9000.0	307.35	105.46	8.37	10.83
10000.0	317.29	106.19	8.46	10.95
50000.0	521.68	117.20	9.85	12.82
100000.0	649.64	121.94	10.45	13.63
500000.0	1090.51	132.97	11.84	15.51
1000000.0	1366.31	137.71	12.44	16.32

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SALT LAKE CITY,UTAH (1942-1977) . REFER TO SECT. 2.2

      THE SAMPLE NUMBER OF OBSERVATIONS =       36.00
      THE SAMPLE MEAN                   =       50.55
      THE SAMPLE STANDARD DEVIATION     =        7.22
      THE SAMPLE MINIMUM                =       40.34
      THE SAMPLE MAXIMUM                =       68.96

  DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

04/22/42      46.               56. NW                          53.
01/21/43      46.               52. SE                          49.
06/08/44      58.               44. NW                          40.
08/19/45      58.               58.  W                          53.
10/01/46      58.               60. NW                          55.
08/10/47      58.               44. NW                          40.
04/29/48      58.               53. SW                          49.
08/04/49      58.               50.  W                          46.
10/27/50      58.               67. NW                          61.
08/19/51      58.               45.  W                          41.
09/03/52      58.               61.  W                          56.
05/21/53      58.               57. NW                          52.
03/10/54      58.               71. NW                          65.
04/26/55      29.               54. SW                          55.
03/31/56      29.               42. SW                          43.
07/21/57      29.               45.  W                          46.
11/14/58      29.               43.  S                          44.
06/15/59      29.               42.  W                          43.
08/22/60      20.               40. SW                          44.
08/06/61      20.               49.  W                          54.
01/20/62      20.               49.  S                          54.
06/03/63      20.               63.  W                          69.
04/11/64      20.               57. NW                          62.
08/03/65      20.               45. SW                          49.
08/11/66      20.               42. NW                          46.
03/11/67      20.               45.  S                          49.
05/05/68      20.               54. SW                          59.
08/11/69      20.               45. SW                          49.
05/23/70      20.               46. NW                          50.
02/24/71      20.               41.  S                          45.
09/05/72      20.               55. NW                          60.
07/20/73      20.               42.  W                          46.
03/02/74      20.               45.  S                          49.
06/02/75      20.               38. NW                          42.
04/25/76      20.               49. NW                          54.
03/27/77      20.               42.  N                          46.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	49.42	1.10	1.10
3.0	52.60	1.35	1.40
4.0	54.63	1.54	1.66
5.0	56.14	1.69	1.86
6.0	57.34	1.82	2.03
7.0	58.33	1.92	2.17
8.0	59.19	2.01	2.30
9.0	59.93	2.10	2.41
10.0	60.59	2.17	2.51
20.0	64.86	2.65	3.17
30.0	67.32	2.94	3.56
36.0	68.42	3.07	3.74
40.0	69.05	3.14	3.84
50.0	70.39	3.30	4.05
60.0	71.48	3.43	4.23
70.0	72.40	3.54	4.38
80.0	73.20	3.63	4.51
90.0	73.90	3.72	4.62
100.0	74.53	3.79	4.72
200.0	78.66	4.29	5.39
300.0	81.07	4.58	5.78
400.0	82.78	4.78	6.06
500.0	84.10	4.94	6.28
600.0	85.18	5.07	6.46
700.0	86.10	5.19	6.61
800.0	86.89	5.28	6.74
900.0	87.59	5.37	6.85
1000.0	88.22	5.44	6.95
2000.0	92.33	5.94	7.63
3000.0	94.73	6.24	8.03
4000.0	96.44	6.44	8.31
5000.0	97.77	6.61	8.52
6000.0	98.85	6.74	8.70
7000.0	99.76	6.85	8.85
8000.0	100.55	6.95	8.98
9000.0	101.25	7.03	9.10
10000.0	101.88	7.11	9.20
50000.0	111.43	8.28	10.78
100000.0	115.54	8.78	11.46
500000.0	125.09	9.95	13.04
1000000.0	129.20	10.46	13.72

BURLINGTON,VERMONT (1944-1977). REFER TO SECT. 2.2

THE SAMPLE NUMBER OF OBSERVATIONS = 34.00
THE SAMPLE MEAN = 45.68
THE SAMPLE STANDARD DEVIATION = 7.27
THE SAMPLE MINIMUM = 34.68
THE SAMPLE MAXIMUM = 66.50

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
02/05/44	51.	42.	S	39.
03/06/45	51.	47.	S	44.
11/24/46	51.	45.	S	42.
04/11/47	51.	47.	S	44.
04/11/48	51.	52.	S	49.
12/22/49	51.	52.	S	49.
11/26/50	55.	72.	SE	66.
03/30/51	55.	56.	S	52.
06/24/52	55.	40.	W	37.
02/21/53	55.	47.	SW	43.
10/15/54	60.	70.	SE	64.
08/05/55	60.	54.	N	49.
02/25/56	60.	47.	W	43.
01/20/57	60.	42.	S	38.
06/01/58	60.	38.	SW	35.
12/09/59	20.	42.	NW	46.
04/17/60	20.	37.	S	41.
12/15/61	20.	38.	NW	42.
01/16/62	20.	47.	S	51.
03/06/63	20.	49.	S	54.
11/18/64	20.	47.	NW	51.
02/25/65	20.	50.	SE	55.
04/21/66	20.	38.	SW	42.
10/19/67	20.	40.	SW	44.
12/13/68	20.	38.	S	42.
02/09/69	20.	34.	N	37.
01/29/70	20.	43.	SW	47.
03/15/71	20.	38.	SW	42.
01/25/72	20.	49.	NW	54.
10/14/73	20.	38.	W	42.
07/09/74	20.	46.	NW	50.
04/19/75	20.	40.	S	44.
03/27/76	20.	37.	S	41.
03/30/77	20.	34.	NW	37.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 14.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	44.30	44.55	1.14	1.14
3.0	47.39	47.74	1.40	1.45
4.0	49.44	49.78	1.60	1.72
5.0	50.99	51.30	1.75	1.93
6.0	52.24	52.50	1.88	2.10
7.0	53.29	53.50	1.99	2.25
8.0	54.20	54.35	2.09	2.38
9.0	55.00	55.10	2.17	2.50
10.0	55.72	55.76	2.25	2.60
20.0	60.51	60.05	2.75	3.29
30.0	63.37	62.52	3.05	3.69
34.0	64.27	63.27	3.14	3.82
40.0	65.45	64.25	3.26	3.98
50.0	67.08	65.60	3.42	4.20
60.0	68.43	66.69	3.55	4.38
70.0	69.58	67.62	3.67	4.54
80.0	70.59	68.42	3.77	4.67
90.0	71.49	69.12	3.85	4.79
100.0	72.30	69.75	3.93	4.89
200.0	77.77	73.90	4.44	5.59
300.0	81.09	76.32	4.74	6.00
400.0	83.50	78.03	4.96	6.28
500.0	85.41	79.36	5.12	6.51
600.0	86.99	80.45	5.26	6.69
700.0	88.34	81.37	5.37	6.85
800.0	89.52	82.16	5.47	6.98
900.0	90.57	82.86	5.56	7.10
1000.0	91.52	83.49	5.64	7.21
2000.0	97.95	87.62	6.16	7.91
3000.0	101.85	90.03	6.46	8.32
4000.0	104.69	91.75	6.68	8.61
5000.0	106.94	93.08	6.85	8.84
6000.0	108.80	94.16	6.98	9.02
7000.0	110.39	95.08	7.10	9.18
8000.0	111.79	95.88	7.20	9.31
9000.0	113.03	96.58	7.29	9.43
10000.0	114.15	97.20	7.37	9.54
50000.0	132.32	106.79	8.58	11.17
100000.0	140.81	110.91	9.10	11.87
500000.0	162.25	120.51	10.31	13.51
1000000.0	172.26	124.63	10.84	14.22

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      LYNCHBURG,VIRGINIA  (1944-1977). REFER TO SECT. 2.2

            THE SAMPLE NUMBER OF OBSERVATIONS =      34.00
            THE SAMPLE MEAN                   =      40.94
            THE SAMPLE STANDARD DEVIATION     =       6.07
            THE SAMPLE MINIMUM                =      32.76
            THE SAMPLE MAXIMUM                =      53.36

   DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
            ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                           AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

 10/20/44      50.             54. NE                       51.
 05/16/45      50.             45. SW                       42.
 02/26/46      50.             37. SW                       35.
 01/30/47      50.             57. SW                       53.
 05/12/48      50.             35.  S                       33.
 11/30/49      50.             43. NW                       40.
 12/07/50      50.             45. SE                       42.
 06/27/51      50.             56. SW                       52.
 08/31/52      50.             46. NE                       43.
 08/08/53      50.             45. NW                       42.
 07/15/54      50.             43. NW                       40.
 03/22/55      50.             42.  W                       39.
 03/08/56      50.             41.  S                       38.
 11/08/57      50.             40.  S                       37.
 05/19/58      50.             56.  N                       52.
 01/21/59      50.             38.  S                       36.
 06/12/60      50.             38.  N                       36.
 02/25/61      50.             50.  S                       47.
 11/27/62      50.             35. NE                       33.
 03/06/63      20.             39.  W                       43.
 10/16/64      20.             36. NE                       39.
 02/25/65      20.             34.  W                       37.
 04/01/66      20.             34.  W                       37.
 08/19/67      20.             34. NW                       37.
 12/28/68      20.             40. SW                       44.
 05/09/69      20.             31.  W                       34.
 04/02/70      20.             37. SW                       41.
 01/26/71      20.             45.  W                       49.
 11/08/72      20.             33. NW                       36.
 03/17/73      20.             34.  W                       37.
 06/10/74      20.             31.  W                       34.
 04/03/75      20.             38.  W                       42.
 03/21/76      20.             34.  S                       37.
 08/11/77      20.             48.  W                       53.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	40.01	.95	.96
3.0	42.64	1.17	1.21
4.0	44.32	1.33	1.43
5.0	45.57	1.46	1.61
6.0	46.56	1.57	1.76
7.0	47.38	1.66	1.88
8.0	48.09	1.74	1.99
9.0	48.70	1.81	2.09
10.0	49.25	1.88	2.17
20.0	52.78	2.30	2.75
30.0	54.82	2.54	3.08
34.0	55.44	2.62	3.19
40.0	56.25	2.72	3.32
50.0	57.36	2.86	3.51
60.0	58.26	2.97	3.66
70.0	59.02	3.06	3.79
80.0	59.68	3.14	3.90
90.0	60.26	3.22	4.00
100.0	60.78	3.28	4.09
200.0	64.20	3.71	4.67
300.0	66.19	3.96	5.01
400.0	67.61	4.14	5.25
500.0	68.70	4.28	5.44
600.0	69.60	4.39	5.59
700.0	70.35	4.49	5.72
800.0	71.01	4.57	5.83
900.0	71.59	4.64	5.93
1000.0	72.11	4.71	6.02
2000.0	75.51	5.14	6.60
3000.0	77.50	5.40	6.95
4000.0	78.91	5.58	7.19
5000.0	80.01	5.72	7.38
6000.0	80.90	5.83	7.53
7000.0	81.66	5.93	7.66
8000.0	82.31	6.01	7.78
9000.0	82.89	6.09	7.88
10000.0	83.41	6.15	7.96
50000.0	91.31	7.16	9.33
100000.0	94.71	7.60	9.92
500000.0	102.62	8.61	11.28
1000000.0	106.02	9.05	11.87

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     NORFOLK, VIRGINIA (1953-1972)   CAUTION -- SEE APPENDIX 1

          THE SAMPLE NUMBER OF OBSERVATIONS =       20.00
          THE SAMPLE MEAN                   =       48.93
          THE SAMPLE STANDARD DEVIATION     =        8.86
          THE SAMPLE MINIMUM                =       35.33
          THE SAMPLE MAXIMUM                =       68.89

   DATE     ANEMOMETER    FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

 08/14/53      78.            63. NE                       56.
 10/15/54      78.            78.  S                       69.
 03/22/55      78.            54.  W                       48.
 07/09/56      78.            63. SW                       56.
 09/04/57      78.            59.  S                       52.
 08/13/58      78.            48.  S                       42.
 01/22/59      78.            56. SW                       49.
 09/12/60      78.            73.  W                       64.
 02/25/61      78.            45. SW                       40.
 11/09/62      78.            52. SE                       46.
 03/06/63      78.            57.  W                       50.
 09/13/64      78.            63. NE                       56.
 02/25/65      78.            66. SW                       58.
 02/13/66      78.            45. SW                       40.
 03/07/67      78.            42.  W                       37.
 05/27/68      78.            52. SE                       46.
 03/01/69      78.            40.  N                       35.
 06/21/70      78.            52.  W                       46.
 08/27/71      78.            52. NE                       46.
 02/03/72      78.            48. SW                       42.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	47.59	1.81	1.82
3.0	51.61	2.22	2.31
4.0	54.18	2.54	2.73
5.0	56.08	2.79	3.06
6.0	57.59	2.99	3.34
7.0	58.85	3.17	3.58
8.0	59.92	3.32	3.79
9.0	60.86	3.45	3.97
10.0	61.70	3.57	4.14
20.0	67.09	4.37	5.23
20.0	67.09	4.37	5.23
30.0	70.19	4.84	5.87
40.0	72.37	5.18	6.32
50.0	74.06	5.44	6.68
60.0	75.44	5.65	6.97
70.0	76.61	5.83	7.21
80.0	77.61	5.99	7.42
90.0	78.50	6.12	7.61
100.0	79.29	6.25	7.78
200.0	84.50	7.06	8.88
300.0	87.55	7.54	9.53
400.0	89.70	7.88	9.99
500.0	91.38	8.15	10.35
600.0	92.74	8.36	10.64
700.0	93.90	8.54	10.89
800.0	94.90	8.70	11.10
900.0	95.78	8.84	11.29
1000.0	96.57	8.97	11.46
2000.0	101.76	9.79	12.57
3000.0	104.80	10.27	13.22
4000.0	106.95	10.62	13.69
5000.0	108.63	10.88	14.05
6000.0	109.99	11.10	14.34
7000.0	111.15	11.29	14.59
8000.0	112.15	11.44	14.80
9000.0	113.03	11.59	14.99
10000.0	113.82	11.71	15.16
50000.0	125.87	13.64	17.76
100000.0	131.06	14.47	18.88
500000.0	143.12	16.40	21.48
1000000.0	148.31	17.23	22.60

RICHMOND,VIRGINIA (1951-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 27.00
THE SAMPLE MEAN = 42.15
THE SAMPLE STANDARD DEVIATION = 6.39
THE SAMPLE MINIMUM = 30.65
THE SAMPLE MAXIMUM = 61.29

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
02/01/51	66.	45. SW	41.
06/29/52	66.	52. NW	47.
06/09/53	66.	34. NW	31.
10/15/54	66.	68. SE	61.
07/23/55	66.	56. NW	50.
05/23/56	66.	39. SW	35.
06/28/57	66.	50. S	45.
01/25/58	66.	39. E	35.
01/21/59	66.	40. S	36.
12/12/60	66.	38. NW	34.
02/25/61	20.	38. SW	42.
05/08/62	20.	45. N	49.
03/06/63	20.	37. W	41.
03/10/64	20.	40. SW	44.
06/30/65	20.	35. N	38.
02/13/66	20.	40. SW	44.
07/20/67	20.	38. SW	42.
12/28/68	20.	40. SW	44.
06/18/69	20.	34. N	37.
04/02/70	20.	36. W	39.
01/26/71	20.	43. NW	47.
04/15/72	20.	40. NW	44.
07/11/73	20.	47. NW	51.
03/16/74	20.	35. SW	38.
01/01/75	20.	40. NW	44.
03/13/76	20.	34. W	37.
11/17/77	20.	38. NW	42.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 35.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	41.08	41.17	1.13	1.13
3.0	43.89	44.00	1.38	1.44
4.0	45.70	45.82	1.57	1.69
5.0	47.06	47.16	1.73	1.90
6.0	48.15	48.23	1.86	2.08
7.0	49.06	49.12	1.97	2.22
8.0	49.84	49.88	2.06	2.35
9.0	50.52	50.54	2.14	2.47
10.0	51.13	51.13	2.22	2.57
20.0	55.12	54.94	2.71	3.25
27.0	56.84	56.56	2.93	3.54
30.0	57.45	57.13	3.01	3.64
40.0	59.11	58.67	3.21	3.93
50.0	60.40	59.87	3.38	4.15
60.0	61.46	60.84	3.51	4.33
70.0	62.36	61.66	3.62	4.48
80.0	63.14	62.37	3.72	4.61
90.0	63.83	63.00	3.80	4.73
100.0	64.45	63.56	3.88	4.83
200.0	68.57	67.24	4.39	5.52
300.0	71.02	69.39	4.68	5.92
400.0	72.77	70.91	4.89	6.20
500.0	74.13	72.09	5.06	6.43
600.0	75.26	73.06	5.19	6.61
700.0	76.21	73.88	5.31	6.76
800.0	77.04	74.58	5.40	6.89
900.0	77.78	75.21	5.49	7.01
1000.0	78.43	75.76	5.57	7.12
2000.0	82.82	79.43	6.08	7.81
3000.0	85.42	81.58	6.38	8.21
4000.0	87.29	83.10	6.59	8.50
5000.0	88.75	84.28	6.76	8.72
6000.0	89.95	85.24	6.89	8.90
7000.0	90.97	86.06	7.01	9.06
8000.0	91.85	86.76	7.11	9.19
9000.0	92.64	87.39	7.19	9.31
10000.0	93.34	87.95	7.27	9.42
50000.0	104.35	96.46	8.47	11.03
100000.0	109.26	100.12	8.98	11.72
500000.0	121.03	108.64	10.18	13.34
1000000.0	126.27	112.31	10.70	14.03

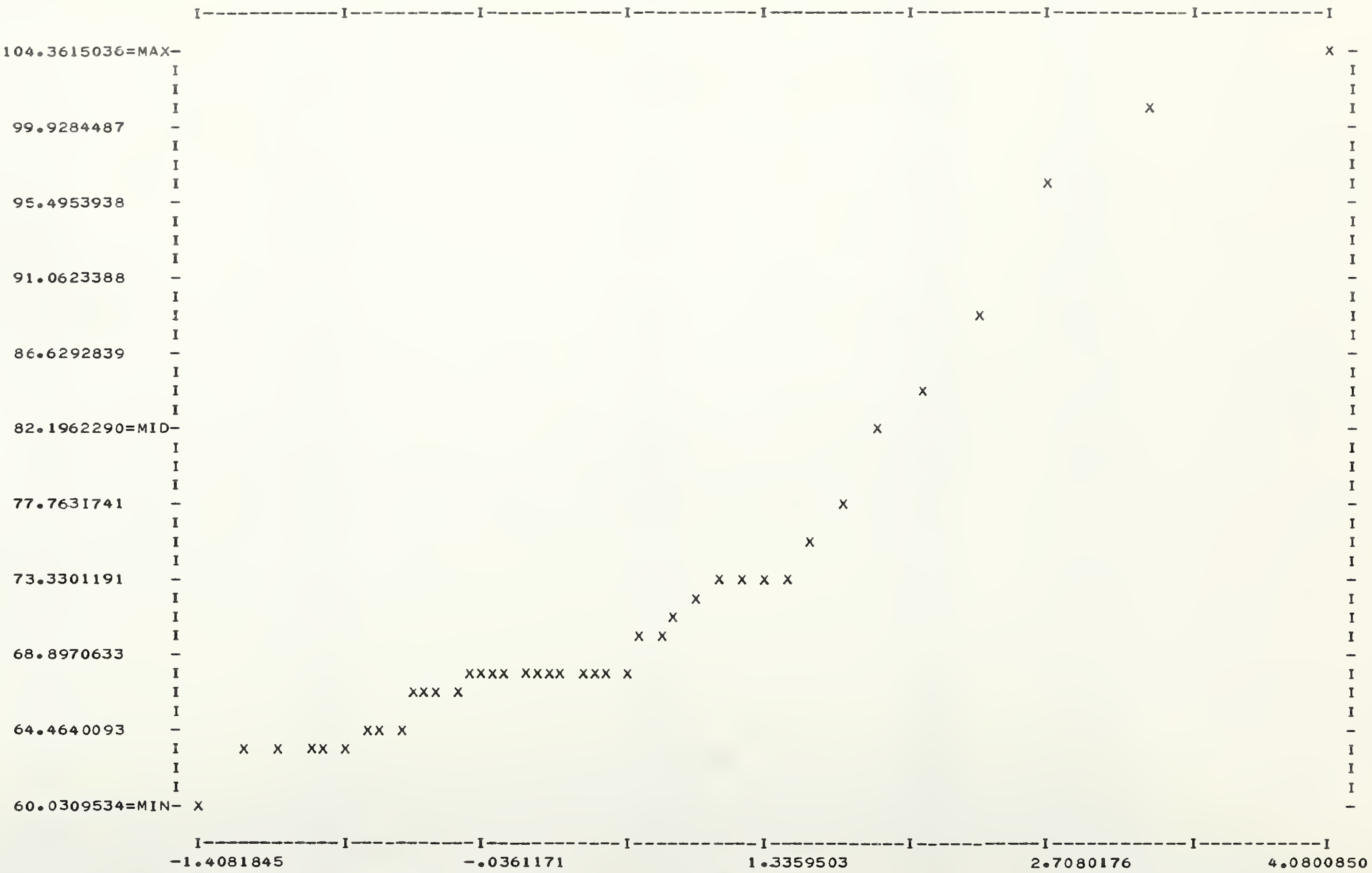
NORTH HEAD, WASH. (1912-1952)

THE SAMPLE NUMBER OF OBSERVATIONS = 41.00
THE SAMPLE MEAN = 71.47
THE SAMPLE STANDARD DEVIATION = 10.14
THE SAMPLE MINIMUM = 60.03
THE SAMPLE MAXIMUM = 104.36

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
12/30/12	55.	73.	S	67.
11/29/13	55.	70.	S	65.
01/17/14	55.	73.	SE	67.
12/19/15	55.	73.	SE	67.
12/03/16	55.	76.	SE	70.
12/15/17	55.	68.	S	63.
11/10/18	55.	73.	SE	67.
01/14/19	55.	79.	SE	73.
12/12/20	55.	69.	S	64.
01/29/21	55.	113.	SE	104.
12/30/22	55.	65.	S	60.
01/17/23	55.	73.	S	67.
10/28/24	55.	73.	S	67.
11/15/25	55.	76.	S	70.
12/01/26	55.	80.	S	74.
02/19/27	55.	79.	S	73.
12/09/28	55.	72.	S	66.
12/25/29	55.	68.	S	63.
02/20/30	55.	68.	S	63.
12/06/31	55.	72.	S	66.
12/22/32	55.	82.	S	76.
12/17/33	55.	73.	S	67.
10/21/34	55.	109.	SE	101.
01/21/35	55.	70.	S	65.
01/12/36	55.	77.	S	71.
11/24/37	55.	91.	S	84.
02/05/38	55.	84.	S	78.
01/01/39	55.	96.	S	89.
12/21/40	55.	104.	S	96.
12/14/41	55.	80.	S	74.
12/21/42	55.	72.	S	66.
04/23/43	55.	89.	S	82.
12/27/44	55.	73.	S	67.
03/19/45	55.	72.	S	66.
01/03/46	55.	73.	S	67.
12/18/47	55.	73.	S	67.
11/27/48	55.	73.	S	67.
12/04/49	55.	70.	S	65.

10/25/50	55.	68.	SE	63.
01/02/51	55.	78.	W	72.
12/06/52	55.	73.	S	67.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 3.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	68.62	69.96	1.45	1.45
3.0	72.00	74.18	1.78	1.85
4.0	74.50	76.88	2.03	2.18
5.0	76.55	78.88	2.22	2.45
6.0	78.30	80.47	2.39	2.67
7.0	79.85	81.79	2.53	2.86
8.0	81.25	82.92	2.65	3.03
9.0	82.53	83.91	2.76	3.17
10.0	83.71	84.78	2.85	3.31
20.0	92.49	90.45	3.49	4.18
30.0	98.58	93.71	3.87	4.69
40.0	103.41	96.01	4.13	5.05
41.0	103.84	96.20	4.16	5.08
50.0	107.47	97.78	4.34	5.33
60.0	111.03	99.23	4.51	5.57
70.0	114.20	100.45	4.66	5.76
80.0	117.08	101.51	4.78	5.93
90.0	119.73	102.44	4.89	6.08
100.0	122.18	103.28	4.99	6.21
200.0	140.67	108.75	5.64	7.10
300.0	153.63	111.95	6.02	7.61
400.0	163.94	114.21	6.30	7.98
500.0	172.64	115.97	6.51	8.27
600.0	180.25	117.41	6.68	8.50
700.0	187.05	118.62	6.83	8.70
800.0	193.23	119.67	6.95	8.87
900.0	198.92	120.60	7.06	9.02
1000.0	204.20	121.43	7.16	9.15
2000.0	243.94	126.89	7.82	10.04
3000.0	271.82	130.08	8.21	10.56
4000.0	294.01	132.34	8.48	10.93
5000.0	312.76	134.10	8.69	11.22
6000.0	329.14	135.53	8.87	11.46
7000.0	343.79	136.75	9.02	11.65
8000.0	357.10	137.80	9.14	11.83
9000.0	369.35	138.73	9.25	11.98
10000.0	380.72	139.56	9.36	12.11
50000.0	614.58	152.22	10.89	14.19
100000.0	760.98	157.68	11.56	15.08
500000.0	1265.41	170.35	13.10	17.16
1000000.0	1580.97	175.81	13.76	18.05



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EXTREME VALUE TYPE 1 (EXPONENTIAL TYPE) PROBABILITY PLOT (TAU =    .15618669+01)              THE SAMPLE SIZE N =      41
PROBABILITY PLOT CORRELATION COEFFICIENT =   .94329     ESTIMATED INTERCEPT =    .67075768+02   ESTIMATED SLOPE =    .78693127+01
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QUILLAYUTE,WASH. (1967-1977)

     THE SAMPLE NUMBER OF OBSERVATIONS =       11.00
     THE SAMPLE MEAN                   =       36.54
     THE SAMPLE STANDARD DEVIATION     =        3.08
     THE SAMPLE MINIMUM                =       30.09
     THE SAMPLE MAXIMUM                =       41.91

  DATE      ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
           ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                           AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

12/05/67       22.                36. SE                      39.
01/09/68       22.                34.  S                      37.
12/22/69       22.                39. SW                      42.
12/07/70       22.                33. SW                      35.
01/15/71       22.                32. SW                      34.
02/27/72       22.                35. SW                      38.
11/27/73       22.                37. SE                      40.
03/26/74       22.                33. SE                      35.
11/14/75       22.                33. SE                      35.
02/25/76       22.                28. SW                      30.
12/13/77       22.                34. SW                      37.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	36.12	.85	.85
3.0	37.51	1.04	1.08
4.0	38.40	1.19	1.28
5.0	39.06	1.30	1.43
6.0	39.59	1.40	1.57
7.0	40.02	1.48	1.68
8.0	40.40	1.55	1.77
9.0	40.72	1.62	1.86
10.0	41.01	1.67	1.94
11.0	41.27	1.72	2.01
20.0	42.88	2.05	2.45
30.0	43.96	2.27	2.75
40.0	44.71	2.42	2.96
50.0	45.30	2.55	3.13
60.0	45.78	2.65	3.26
70.0	46.18	2.73	3.38
80.0	46.53	2.80	3.48
90.0	46.84	2.87	3.56
100.0	47.11	2.93	3.64
200.0	48.92	3.31	4.16
300.0	49.97	3.53	4.46
400.0	50.72	3.69	4.68
500.0	51.30	3.81	4.85
600.0	51.78	3.92	4.98
700.0	52.18	4.00	5.10
800.0	52.52	4.08	5.20
900.0	52.83	4.14	5.29
1000.0	53.10	4.20	5.37
2000.0	54.90	4.59	5.89
3000.0	55.96	4.81	6.19
4000.0	56.70	4.97	6.41
5000.0	57.28	5.10	6.58
6000.0	57.76	5.20	6.71
7000.0	58.16	5.28	6.83
8000.0	58.50	5.36	6.93
9000.0	58.81	5.42	7.02
10000.0	59.08	5.48	7.10
50000.0	63.26	6.39	8.32
100000.0	65.06	6.77	8.84
500000.0	69.24	7.68	10.06
1000000.0	71.04	8.07	10.58

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    SEATTLE, WASH. (1968-1977)


         THE SAMPLE NUMBER OF OBSERVATIONS =       10.00
         THE SAMPLE MEAN                   =       41.92
         THE SAMPLE STANDARD DEVIATION     =        3.35
         THE SAMPLE MINIMUM                =       35.03
         THE SAMPLE MAXIMUM                =       45.97


  DATE     ANEMOMETER    FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
         ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                         AT ANEMOMETER ELEVATION)  GRCUND (CORRECTED SPEED)

01/10/68     20.                35. SW                      38.
12/14/69     20.                40.  S                      44.
12/10/70     20.                32. SW                      35.
01/16/71     20.                42. SW                      46.
03/24/72     20.                38. SW                      42.
12/11/73     20.                41. SE                      45.
04/11/74     20.                37.  S                      41.
01/08/75     20.                41. SW                      45.
02/25/76     20.                38.  S                      42.
11/01/77     20.                39. SW                      43.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	41.49	.97	.97
3.0	42.96	1.19	1.23
4.0	43.90	1.35	1.46
5.0	44.59	1.49	1.64
6.0	45.15	1.60	1.79
7.0	45.61	1.69	1.91
8.0	46.00	1.77	2.02
9.0	46.34	1.84	2.12
10.0	46.65	1.91	2.21
10.0	46.65	1.91	2.21
20.0	48.62	2.33	2.79
30.0	49.75	2.59	3.13
40.0	50.55	2.76	3.38
50.0	51.17	2.90	3.57
60.0	51.67	3.02	3.72
70.0	52.09	3.11	3.85
80.0	52.46	3.20	3.96
90.0	52.79	3.27	4.06
100.0	53.08	3.34	4.15
200.0	54.98	3.77	4.74
300.0	56.09	4.03	5.09
400.0	56.88	4.21	5.34
500.0	57.49	4.35	5.53
600.0	57.99	4.47	5.68
700.0	58.41	4.56	5.81
800.0	58.78	4.65	5.93
900.0	59.10	4.72	6.03
1000.0	59.39	4.79	6.12
2000.0	61.28	5.23	6.71
3000.0	62.39	5.49	7.06
4000.0	63.18	5.67	7.31
5000.0	63.79	5.81	7.50
6000.0	64.29	5.93	7.66
7000.0	64.71	6.03	7.79
8000.0	65.08	6.11	7.91
9000.0	65.40	6.19	8.01
10000.0	65.69	6.25	8.10
50000.0	70.09	7.28	9.48
100000.0	71.99	7.73	10.08
500000.0	76.39	8.76	11.47
1000000.0	78.29	9.20	12.07

SPOKANE, WASH. (1941-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 37.00
THE SAMPLE MEAN = 47.81
THE SAMPLE STANDARD DEVIATION = 6.44
THE SAMPLE MINIMUM = 33.42
THE SAMPLE MAXIMUM = 64.58

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
03/17/41	42.	40. SW	38.
03/05/42	53.	45. SW	42.
12/03/43	53.	56. SW	52.
03/23/44	53.	56. W	52.
04/27/45	53.	43. W	40.
03/02/46	53.	36. SW	33.
01/25/47	53.	56. SW	52.
11/28/48	29.	42. SW	43.
11/27/49	29.	54. SW	55.
10/27/50	29.	56. SW	57.
01/15/51	29.	50. SW	51.
03/28/52	29.	45. SW	46.
01/08/53	29.	44. SW	45.
01/14/54	29.	42. S	43.
03/22/55	29.	54. SW	55.
12/09/56	29.	51. SW	52.
05/01/57	29.	49. W	50.
02/25/58	34.	45. SW	45.
10/08/59	31.	43. SW	43.
02/14/60	31.	37. SW	37.
12/21/61	31.	47. SW	47.
11/19/62	31.	50. SW	50.
04/14/63	31.	49. SW	49.
02/16/64	31.	42. SW	42.
02/27/65	31.	45. SW	45.
01/02/66	20.	39. S	43.
01/15/67	20.	44. W	48.
12/03/68	20.	50. SW	55.
01/31/69	20.	36. SW	39.
04/24/70	20.	47. SW	51.
03/26/71	20.	53. SW	58.
01/09/72	20.	59. SW	65.
11/12/73	20.	45. SW	49.
03/01/74	20.	42. SW	46.
12/02/75	20.	48. SW	53.
03/24/76	20.	44. SW	48.
12/03/77	20.	42. W	46.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	46.81	.97	.97
3.0	49.61	1.19	1.24
4.0	51.39	1.36	1.46
5.0	52.72	1.49	1.64
6.0	53.77	1.60	1.79
7.0	54.64	1.69	1.91
8.0	55.39	1.77	2.03
9.0	56.05	1.85	2.12
10.0	56.63	1.91	2.21
20.0	60.38	2.34	2.79
30.0	62.54	2.59	3.14
37.0	63.65	2.72	3.31
40.0	64.06	2.77	3.38
50.0	65.23	2.91	3.57
60.0	66.19	3.02	3.72
70.0	67.00	3.12	3.85
80.0	67.70	3.20	3.97
90.0	68.32	3.27	4.07
100.0	68.87	3.34	4.16
200.0	72.50	3.77	4.75
300.0	74.61	4.03	5.09
400.0	76.11	4.21	5.34
500.0	77.28	4.35	5.53
600.0	78.23	4.47	5.69
700.0	79.03	4.57	5.82
800.0	79.73	4.65	5.93
900.0	80.34	4.73	6.03
1000.0	80.89	4.79	6.12
2000.0	84.51	5.23	6.72
3000.0	86.62	5.49	7.07
4000.0	88.12	5.67	7.32
5000.0	89.28	5.82	7.51
6000.0	90.23	5.93	7.66
7000.0	91.03	6.03	7.80
8000.0	91.73	6.12	7.91
9000.0	92.34	6.19	8.01
10000.0	92.89	6.26	8.10
50000.0	101.28	7.29	9.49
100000.0	104.89	7.73	10.09
500000.0	113.28	8.76	11.48
1000000.0	116.90	9.21	12.08

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    TATOOSH ISLAND, WASH. (1912-1965)

        THE SAMPLE NUMBER OF OBSERVATIONS =       54.00
        THE SAMPLE MEAN                   =       66.02
        THE SAMPLE STANDARD DEVIATION     =        6.98
        THE SAMPLE MINIMUM                =       52.38
        THE SAMPLE MAXIMUM                =       85.60

  DATE      ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                         AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

12/17/12      57.               75.  S                      69.
02/16/13      57.               57.  E                      52.
01/02/14      57.               70.  S                      64.
11/25/15      57.               69. SW                      63.
02/02/16      57.               84. NE                      77.
03/23/17      57.               60. SW                      55.
11/13/18      57.               65.  S                      60.
01/14/19      57.               85.  S                      78.
11/27/20      57.               73.  S                      67.
01/29/21      57.               87. SW                      80.
12/05/22      57.               62. NE                      57.
12/17/23      53.               75.  S                      70.
12/19/24      53.               76.  E                      71.
02/10/25      53.               65.  E                      60.
11/20/26      53.               66.  E                      61.
12/31/27      53.               76.  E                      71.
03/26/28      53.               91.  E                      84.
04/16/29      53.               57.  S                      53.
01/16/30      53.               70.  E                      65.
01/22/31      53.               66.  S                      61.
12/22/32      53.               66.  S                      61.
12/20/33      53.               65.  S                      60.
12/26/34      53.               73. SW                      68.
01/21/35      53.               61. SW                      57.
12/21/36      53.               63.  S                      58.
02/16/37      53.               70.  S                      65.
03/16/38      53.               77. SW                      71.
09/20/39      55.               68. NE                      63.
12/22/40      61.               85.  S                      77.
12/15/41      61.               77. SW                      70.
02/01/43      61.               66. SW                      60.
11/02/42      61.               94.  S                      86.
12/22/44      61.               64.  E                      58.
03/19/45      61.               80.  S                      73.
01/07/46      61.               73.  W                      66.
12/13/47      61.               72.  S                      66.
11/27/48      61.               72.  S                      66.
12/28/49      61.               77.  S                      70.
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01/13/50	61.	72.	NE	66.
01/16/51	61.	70.	SW	64.
12/30/52	61.	72.	S	66.
01/09/53	61.	72.	S	66.
01/03/54	61.	70.	S	64.
12/18/55	61.	72.	E	66.
10/19/56	61.	73.	S	66.
12/22/57	61.	71.	W	65.
04/17/58	61.	71.	SW	65.
01/04/59	61.	68.	E	62.
04/13/60	61.	73.	E	66.
01/18/61	64.	77.	E	70.
11/25/62	64.	80.	SW	72.
10/24/63	64.	70.	S	63.
01/19/64	64.	72.	SW	65.
01/01/65	64.	72.	SW	65.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	64.91	.87	.87
3.0	67.93	1.07	1.11
4.0	69.86	1.22	1.31
5.0	71.29	1.34	1.47
6.0	72.42	1.43	1.60
7.0	73.37	1.52	1.72
8.0	74.18	1.59	1.82
9.0	74.88	1.66	1.91
10.0	75.51	1.71	1.98
20.0	79.56	2.10	2.51
30.0	81.89	2.32	2.81
40.0	83.53	2.48	3.03
50.0	84.80	2.61	3.20
54.0	85.24	2.65	3.26
60.0	85.83	2.71	3.34
70.0	86.71	2.79	3.46
80.0	87.46	2.87	3.56
90.0	88.13	2.94	3.65
100.0	88.73	3.00	3.73
200.0	92.64	3.39	4.26
300.0	94.92	3.62	4.57
400.0	96.54	3.78	4.79
500.0	97.80	3.91	4.96
600.0	98.83	4.01	5.10
700.0	99.69	4.10	5.22
800.0	100.45	4.17	5.32
900.0	101.11	4.24	5.41
1000.0	101.70	4.30	5.49
2000.0	105.60	4.69	6.03
3000.0	107.88	4.93	6.34
4000.0	109.50	5.09	6.56
5000.0	110.76	5.22	6.73
6000.0	111.78	5.32	6.88
7000.0	112.65	5.41	6.99
8000.0	113.40	5.49	7.10
9000.0	114.06	5.55	7.19
10000.0	114.66	5.61	7.27
50000.0	123.71	6.54	8.51
100000.0	127.61	6.94	9.05
500000.0	136.67	7.86	10.30
1000000.0	140.57	8.26	10.84

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     GREEN BAY,WISCONSIN (1949-1977)

          THE SAMPLE NUMBER OF OBSERVATIONS =        29.00
          THE SAMPLE MEAN                   =        56.57
          THE SAMPLE STANDARD DEVIATION     =        11.99
          THE SAMPLE MINIMUM                =        39.41
          THE SAMPLE MAXIMUM                =       102.97

   DATE     ANEMOMETER     FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)   AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                          AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

 10/10/49      47.             66. SW                          62.
 05/05/50      47.            109. SW                         103.
 03/01/51      47.             68.  W                          64.
 04/13/52      47.             57. NE                          54.
 06/04/53      47.             73. SW                          69.
 03/25/54      47.             60. SW                          57.
 11/16/55      47.             67.  W                          63.
 07/01/56      47.             63. NW                          60.
 07/29/57      47.             70. NE                          66.
 11/18/58      47.             59. SW                          56.
 07/08/59      47.             49. SW                          46.
 04/11/60      47.             56.  W                          53.
 10/11/61      47.             51. SW                          48.
 11/20/62      20.             47.  S                          51.
 04/03/63      20.             50. SW                          55.
 04/13/64      20.             59. SW                          65.
 06/20/65      20.             45.  W                          49.
 10/22/66      20.             40. SW                          44.
 05/18/67      20.             49. SW                          54.
 05/08/68      20.             54. SW                          59.
 08/13/69      20.             37.  S                          41.
 06/17/70      20.             60.  W                          66.
 02/27/71      20.             50. SW                          55.
 01/25/72      20.             42.  W                          46.
 04/09/73      20.             47. NE                          51.
 04/21/74      20.             36.  S                          39.
 01/11/75      20.             59. SW                          65.
 06/15/76      20.             42. SW                          46.
 03/29/77      20.             50. SW                          55.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON CPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 4.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	53.57	54.82	2.04	2.04
3.0	57.99	59.87	2.50	2.60
4.0	61.14	63.10	2.85	3.06
5.0	63.66	65.49	3.13	3.44
6.0	65.78	67.40	3.36	3.76
7.0	67.63	68.98	3.56	4.02
8.0	69.27	70.33	3.73	4.26
9.0	70.75	71.51	3.88	4.46
10.0	72.11	72.56	4.01	4.65
20.0	81.84	79.34	4.91	5.87
29.0	87.72	82.92	5.40	6.53
30.0	88.28	83.24	5.44	6.59
40.0	93.25	85.99	5.82	7.10
50.0	97.34	88.12	6.11	7.50
60.0	100.85	89.85	6.35	7.83
70.0	103.94	91.32	6.55	8.10
80.0	106.72	92.58	6.73	8.34
90.0	109.24	93.70	6.88	8.55
100.0	111.56	94.70	7.02	8.74
200.0	128.44	101.25	7.94	9.98
300.0	139.74	105.08	8.47	10.71
400.0	148.47	107.79	8.85	11.23
500.0	155.70	109.90	9.15	11.63
600.0	161.90	111.61	9.39	11.96
700.0	167.37	113.07	9.60	12.23
800.0	172.29	114.33	9.78	12.47
900.0	176.76	115.44	9.93	12.69
1000.0	180.87	116.43	10.08	12.88
2000.0	210.80	122.96	11.00	14.13
3000.0	230.87	126.78	11.54	14.86
4000.0	246.39	129.49	11.93	15.38
5000.0	259.22	131.59	12.23	15.78
6000.0	270.25	133.31	12.47	16.11
7000.0	279.98	134.76	12.68	16.39
8000.0	288.71	136.02	12.86	16.63
9000.0	296.66	137.13	13.02	16.85
10000.0	303.98	138.12	13.16	17.04
50000.0	443.29	153.29	15.32	19.95
100000.0	522.86	159.82	16.25	21.21
500000.0	770.87	174.99	18.42	24.13
1000000.0	912.42	181.52	19.36	25.39

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MADISON,WISCONSIN (1947-1977)

        THE SAMPLE NUMBER OF OBSERVATIONS =      31.00
        THE SAMPLE MEAN                   =      55.65
        THE SAMPLE STANDARD DEVIATION     =      10.60
        THE SAMPLE MINIMUM                =      42.95
        THE SAMPLE MAXIMUM                =      80.22

  DATE     ANEMOMETER    FASTEST MILE WIND  SPEED CALCULATED  FASTEST MILE
          ELEVATION(FT)  AND DIRECTION  (RECORDED WIND SPEED AT 10M  ABOVE
                         AT ANEMOMETER ELEVATION) GROUND (CORRECTED SPEED)

04/05/47      26.              73. SW                        76.
12/05/48      26.              61. SW                        64.
12/11/49      26.              65. SW                        68.
05/05/50      26.              77. SW                        80.
10/30/51      26.              73. SW                        76.
01/15/52      26.              46. SW                        48.
05/21/53      26.              63.  S                        66.
03/25/54      26.              70. SW                        73.
11/16/55      26.              49. SW                        51.
05/12/56      26.              47.  W                        49.
07/08/57      26.              56.  W                        58.
11/18/58      26.              43. SW                        45.
04/05/59      26.              45.  W                        47.
11/15/60      26.              50. SW                        52.
11/02/61      26.              42.  S                        44.
06/17/62      26.              50.  W                        52.
06/07/63      26.              54.  N                        56.
07/27/64      26.              57. NW                        59.
06/27/65      26.              52. SW                        54.
04/19/66      26.              46.  S                        48.
04/14/67      15.              42. SW                        49.
06/10/68      15.              54.  W                        63.
10/09/69      15.              37. SW                        43.
07/30/70      15.              56. NW                        65.
02/27/71      15.              40. SW                        46.
08/14/72      15.              41. NW                        48.
07/09/73      15.              46. NW                        53.
04/12/74      15.              37. SW                        43.
01/11/75      15.              43. SW                        50.
07/30/76      15.              43.  N                        50.
07/16/77      15.              43.  W                        50.
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RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON OPTIMAL EXTREME VALUE TYPE 2. DISTRIBUTION (GAMMA = 45.00000)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	53.91	54.02	1.74	1.75
3.0	58.52	58.67	2.14	2.22
4.0	61.50	61.65	2.44	2.62
5.0	63.72	63.85	2.68	2.94
6.0	65.49	65.60	2.87	3.21
7.0	66.97	67.06	3.04	3.44
8.0	68.24	68.30	3.19	3.64
9.0	69.36	69.39	3.32	3.82
10.0	70.35	70.35	3.43	3.98
20.0	76.81	76.59	4.20	5.02
30.0	80.58	80.18	4.65	5.64
31.0	80.88	80.47	4.69	5.69
40.0	83.25	82.71	4.97	6.08
50.0	85.33	84.67	5.22	6.42
60.0	87.04	86.27	5.43	6.70
70.0	88.48	87.61	5.60	6.93
80.0	89.74	88.78	5.75	7.13
90.0	90.85	89.81	5.89	7.31
100.0	91.84	90.72	6.00	7.48
200.0	98.42	96.75	6.79	8.54
300.0	102.31	100.28	7.25	9.16
400.0	105.09	102.77	7.57	9.60
500.0	107.26	104.71	7.83	9.95
600.0	109.04	106.29	8.04	10.23
700.0	110.55	107.63	8.21	10.46
800.0	111.86	108.79	8.36	10.67
900.0	113.02	109.81	8.50	10.85
1000.0	114.06	110.72	8.62	11.01
2000.0	120.96	116.73	9.41	12.08
3000.0	125.05	120.25	9.87	12.71
4000.0	127.97	122.74	10.20	13.15
5000.0	130.25	124.68	10.46	13.50
6000.0	132.13	126.26	10.67	13.78
7000.0	133.71	127.60	10.85	14.02
8000.0	135.09	128.75	11.00	14.23
9000.0	136.31	129.77	11.13	14.41
10000.0	137.41	130.69	11.26	14.57
50000.0	154.45	144.64	13.11	17.07
100000.0	161.98	150.65	13.90	18.14
500000.0	179.93	164.61	15.76	20.64
1000000.0	187.85	170.62	16.56	21.72

MILWAUKEE, WISCONSIN (1941-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 37.00
THE SAMPLE MEAN = 53.67
THE SAMPLE STANDARD DEVIATION = 6.53
THE SAMPLE MINIMUM = 42.69
THE SAMPLE MAXIMUM = 67.87

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
09/04/41	66.	62. SW	56.
05/13/42	66.	54. SW	49.
03/17/43	66.	56. SW	50.
05/03/44	66.	58. SW	52.
11/12/45	66.	70. S	63.
11/21/46	66.	62. SW	56.
04/05/47	66.	66. SW	59.
12/05/48	66.	62. SW	56.
10/10/49	66.	60. S	54.
05/05/50	66.	72. SW	65.
12/06/51	66.	50. S	45.
07/23/52	66.	59. W	53.
05/21/53	66.	58. SW	52.
03/25/54	66.	73. SW	66.
11/16/55	88.	72. W	63.
05/14/56	88.	59. W	51.
03/15/57	88.	54. W	47.
05/22/58	88.	54. N	47.
09/26/59	20.	46. SW	50.
02/10/60	20.	58. NE	63.
03/27/61	20.	45. S	49.
07/22/62	20.	39. W	43.
04/03/63	20.	56. SW	61.
04/13/64	20.	51. SW	56.
03/18/65	20.	43. SW	47.
05/23/66	20.	40. SW	44.
01/16/67	20.	45. SW	49.
04/08/68	20.	42. SW	46.
07/16/69	20.	46. SW	50.
12/01/70	20.	45. SW	49.
06/19/71	20.	62. W	68.
09/18/72	20.	46. N	50.
06/16/73	20.	52. SW	57.
08/11/74	20.	50. W	55.
01/11/75	20.	54. SW	59.
07/30/76	20.	49. NE	54.
03/29/77	20.	45. SW	49.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	52.65	.98	.99
3.0	55.51	1.20	1.25
4.0	57.33	1.37	1.48
5.0	58.68	1.51	1.66
6.0	59.76	1.62	1.81
7.0	60.65	1.71	1.94
8.0	61.42	1.80	2.05
9.0	62.08	1.87	2.15
10.0	62.68	1.93	2.24
20.0	66.51	2.37	2.83
30.0	68.71	2.62	3.18
37.0	69.84	2.75	3.36
40.0	70.26	2.80	3.42
50.0	71.46	2.94	3.62
60.0	72.44	3.06	3.77
70.0	73.27	3.16	3.90
80.0	73.98	3.24	4.02
90.0	74.61	3.32	4.12
100.0	75.18	3.38	4.21
200.0	78.88	3.82	4.81
300.0	81.04	4.08	5.16
400.0	82.57	4.27	5.41
500.0	83.76	4.41	5.60
600.0	84.73	4.53	5.76
700.0	85.55	4.63	5.89
800.0	86.26	4.71	6.01
900.0	86.89	4.79	6.11
1000.0	87.45	4.86	6.20
2000.0	91.14	5.30	6.81
3000.0	93.30	5.56	7.16
4000.0	94.83	5.75	7.41
5000.0	96.02	5.89	7.60
6000.0	96.99	6.01	7.76
7000.0	97.81	6.11	7.90
8000.0	98.52	6.20	8.01
9000.0	99.15	6.27	8.12
10000.0	99.71	6.34	8.21
50000.0	108.27	7.38	9.61
100000.0	111.96	7.83	10.22
500000.0	120.53	8.88	11.63
1000000.0	124.22	9.33	12.24

CHEYENNE,WYOMING (1936-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 42.00
THE SAMPLE MEAN = 60.51
THE SAMPLE STANDARD DEVIATION = 5.55
THE SAMPLE MINIMUM = 47.45
THE SAMPLE MAXIMUM = 72.62

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
12/30/36	40.	60. NW	58.
02/05/37	40.	69. NW	67.
03/29/38	40.	73. W	71.
06/09/39	40.	63. NW	61.
11/28/40	40.	57. NW	55.
12/18/41	40.	49. W	47.
11/29/42	40.	52. NW	50.
01/15/43	40.	63. NW	61.
06/17/44	40.	52. W	50.
03/25/45	40.	52. NW	50.
01/24/46	40.	75. NW	73.
02/02/47	40.	59. NW	57.
12/20/48	40.	66. NW	64.
01/04/49	40.	66. NW	64.
01/15/50	40.	61. W	59.
05/25/51	40.	69. NW	67.
03/12/52	40.	56. NW	54.
02/17/53	40.	63. NW	61.
01/18/54	40.	66. W	64.
04/12/55	73.	65. NW	58.
03/27/56	73.	66. NW	59.
11/30/57	33.	56. W	56.
10/20/58	33.	61. W	61.
04/02/59	33.	63. W	63.
11/01/60	33.	66. W	66.
11/03/61	33.	60. W	60.
11/20/62	33.	57. W	57.
03/28/63	33.	62. W	62.
04/27/64	33.	61. NW	61.
01/27/65	33.	60. W	60.
03/03/66	33.	60. N	60.
05/01/67	33.	69. NW	69.
12/03/68	33.	65. W	65.
01/08/69	33.	63. W	63.
03/24/70	33.	64. NW	64.
11/20/71	33.	60. NW	60.
03/06/72	33.	69. NW	69.
11/12/73	33.	56. NW	56.

05/13/74	33.	56. W	56.
01/18/75	33.	61. NW	61.
06/14/76	33.	65. NW	65.
12/02/77	33.	58. W	58.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	59.66	.78	.79
3.0	62.02	.96	1.00
4.0	63.53	1.10	1.18
5.0	64.65	1.20	1.32
6.0	65.54	1.29	1.45
7.0	66.28	1.37	1.55
8.0	66.91	1.43	1.64
9.0	67.47	1.49	1.72
10.0	67.96	1.54	1.79
20.0	71.13	1.89	2.26
30.0	72.95	2.09	2.54
40.0	74.24	2.24	2.73
42.0	74.46	2.26	2.77
50.0	75.23	2.35	2.89
60.0	76.04	2.44	3.01
70.0	76.73	2.52	3.12
80.0	77.32	2.59	3.21
90.0	77.84	2.65	3.29
100.0	78.31	2.70	3.36
200.0	81.37	3.05	3.84
300.0	83.16	3.26	4.12
400.0	84.43	3.41	4.32
500.0	85.41	3.52	4.47
600.0	86.22	3.61	4.60
700.0	86.90	3.69	4.71
800.0	87.49	3.76	4.80
900.0	88.00	3.82	4.88
1000.0	88.47	3.88	4.95
2000.0	91.52	4.23	5.43
3000.0	93.31	4.44	5.72
4000.0	94.58	4.59	5.92
5000.0	95.56	4.70	6.07
6000.0	96.36	4.80	6.20
7000.0	97.04	4.88	6.30
8000.0	97.63	4.95	6.40
9000.0	98.15	5.01	6.48
10000.0	98.61	5.06	6.55
50000.0	105.70	5.89	7.67
100000.0	108.75	6.25	8.16
500000.0	115.85	7.09	9.28
1000000.0	118.90	7.45	9.77

LANDER, WYOMING (1946-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 32.00
THE SAMPLE MEAN = 61.17
THE SAMPLE STANDARD DEVIATION = 9.76
THE SAMPLE MINIMUM = 45.20
THE SAMPLE MAXIMUM = 80.35

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)		CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
09/21/46	31.	70.	W	71.
05/13/47	31.	49.	SW	49.
02/16/48	31.	53.	W	54.
02/10/49	31.	63.	SW	64.
10/06/50	31.	70.	SW	71.
01/15/51	31.	59.	SW	60.
06/01/52	31.	50.	W	50.
01/09/53	31.	61.	SW	62.
01/03/54	31.	59.	SW	60.
04/15/55	31.	72.	SW	73.
12/10/56	31.	56.	W	57.
02/11/57	31.	77.	SW	78.
11/04/58	32.	75.	W	75.
07/06/59	32.	57.	W	57.
06/20/60	32.	61.	SW	61.
12/05/61	32.	65.	W	65.
08/27/62	32.	56.	W	56.
01/31/63	32.	56.	SW	56.
12/22/64	32.	73.	SW	73.
01/27/65	32.	59.	W	59.
01/08/66	32.	66.	SW	66.
01/22/67	32.	73.	SW	73.
07/29/68	32.	50.	W	50.
01/07/69	32.	57.	SW	57.
11/24/70	32.	60.	SW	60.
03/13/71	32.	61.	SW	61.
03/06/72	32.	80.	SW	80.
06/17/73	32.	45.	W	45.
01/30/74	32.	70.	SW	70.
09/01/75	32.	47.	SW	47.
02/28/76	32.	45.	SW	45.
03/08/77	32.	50.	SW	50.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	59.68	1.58	1.58
3.0	63.93	1.93	2.01
4.0	66.64	2.21	2.37
5.0	68.65	2.42	2.67
6.0	70.25	2.60	2.91
7.0	71.58	2.76	3.12
8.0	72.71	2.89	3.30
9.0	73.71	3.00	3.46
10.0	74.59	3.11	3.60
20.0	80.28	3.80	4.55
30.0	83.56	4.21	5.11
32.0	84.08	4.28	5.20
40.0	85.87	4.50	5.50
50.0	87.66	4.73	5.81
60.0	89.11	4.92	6.06
70.0	90.34	5.07	6.28
80.0	91.41	5.21	6.46
90.0	92.34	5.33	6.62
100.0	93.18	5.44	6.77
200.0	98.69	6.15	7.73
300.0	101.90	6.56	8.30
400.0	104.18	6.86	8.70
500.0	105.95	7.09	9.01
600.0	107.39	7.28	9.26
700.0	108.61	7.44	9.48
800.0	109.67	7.57	9.66
900.0	110.60	7.70	9.83
1000.0	111.44	7.80	9.97
2000.0	116.92	8.52	10.94
3000.0	120.13	8.94	11.51
4000.0	122.41	9.24	11.91
5000.0	124.17	9.47	12.23
6000.0	125.62	9.66	12.48
7000.0	126.84	9.82	12.70
8000.0	127.89	9.96	12.88
9000.0	128.82	10.08	13.05
10000.0	129.66	10.19	13.20
50000.0	142.39	11.87	15.46
100000.0	147.88	12.59	16.43
500000.0	160.62	14.27	18.69
1000000.0	166.11	15.00	19.67

SHERIDAN,WYOMING (1941-1977)

THE SAMPLE NUMBER OF OBSERVATIONS = 37.00
THE SAMPLE MEAN = 61.46
THE SAMPLE STANDARD DEVIATION = 7.14
THE SAMPLE MINIMUM = 47.07
THE SAMPLE MAXIMUM = 82.00

DATE	ANEMOMETER ELEVATION(FT)	FASTEST MILE WIND SPEED AND DIRECTION (RECORDED AT ANEMOMETER ELEVATION)	CALCULATED FASTEST MILE WIND SPEED AT 10M ABOVE GROUND (CORRECTED SPEED)
09/07/41	38.	59. NW	58.
10/24/42	38.	65. NW	63.
04/12/43	38.	59. NW	58.
10/17/44	38.	57. NW	56.
08/13/45	38.	72. NW	70.
01/22/46	38.	73. NW	71.
07/18/47	38.	73. W	71.
08/19/48	38.	69. NW	67.
11/27/49	38.	84. SW	82.
10/27/50	38.	61. SW	60.
12/28/51	38.	59. W	58.
06/21/52	38.	66. SW	64.
01/09/53	38.	65. SW	63.
11/26/54	38.	65. NW	63.
01/23/55	38.	66. NW	64.
12/10/56	38.	57. W	56.
02/11/57	38.	70. W	68.
11/04/58	42.	73. NW	70.
05/09/59	42.	63. NW	61.
08/15/60	42.	63. NW	61.
03/01/61	42.	62. NW	60.
01/06/62	42.	63. NW	61.
03/28/63	42.	66. SW	63.
02/05/64	42.	63. NW	61.
01/04/65	20.	61. SW	67.
04/02/66	20.	56. NW	61.
01/15/67	20.	57. NW	62.
07/30/68	20.	43. NW	47.
07/03/69	20.	61. NW	67.
12/02/70	20.	56. SW	61.
06/18/71	20.	45. SW	49.
03/06/72	20.	50. SW	55.
08/18/73	20.	59. NW	65.
01/15/74	20.	52. SW	57.
01/24/75	20.	47. NW	51.
05/14/76	20.	43. NW	47.
11/26/77	20.	51. NW	56.

RETURN PERIOD (IN YEARS)	PREDICTED EXTREME WIND BASED ON EXTREME VALUE TYPE 1 DISTRIBUTION	ESTIMATED STAN. DEV. SAMPL. ERROR CRAMER-RAO	ESTIMATED STAN. DEV. SAMPL. ERROR METH. OF MOM.
2.0	60.37	1.07	1.08
3.0	63.44	1.32	1.37
4.0	65.41	1.50	1.62
5.0	66.87	1.65	1.81
6.0	68.03	1.77	1.98
7.0	68.99	1.87	2.12
8.0	69.81	1.96	2.24
9.0	70.53	2.04	2.35
10.0	71.17	2.12	2.45
20.0	75.30	2.59	3.10
30.0	77.67	2.87	3.48
37.0	78.90	3.01	3.67
40.0	79.35	3.07	3.74
50.0	80.64	3.22	3.95
60.0	81.70	3.35	4.13
70.0	82.59	3.45	4.27
80.0	83.36	3.54	4.40
90.0	84.04	3.63	4.51
100.0	84.65	3.70	4.61
200.0	88.64	4.18	5.26
300.0	90.97	4.47	5.64
400.0	92.62	4.67	5.92
500.0	93.90	4.82	6.13
600.0	94.95	4.95	6.30
700.0	95.83	5.06	6.45
800.0	96.60	5.15	6.57
900.0	97.27	5.24	6.69
1000.0	97.88	5.31	6.79
2000.0	101.85	5.80	7.45
3000.0	104.18	6.08	7.83
4000.0	105.83	6.29	8.11
5000.0	107.11	6.45	8.32
6000.0	108.16	6.57	8.49
7000.0	109.04	6.68	8.64
8000.0	109.81	6.78	8.77
9000.0	110.48	6.86	8.88
10000.0	111.09	6.94	8.98
50000.0	120.32	8.08	10.52
100000.0	124.29	8.57	11.18
500000.0	133.53	9.71	12.72
1000000.0	137.50	10.20	13.38

```
ELKINS,W.VIRGINIA (1945-1954)

      THE SAMPLE NUMBER OF OBSERVATIONS =      10.00
      THE SAMPLE MEAN                   =      51.06
      THE SAMPLE STANDARD DEVIATION     =       8.20
      THE SAMPLE MINIMUM                =      39.94
      THE SAMPLE MAXIMUM                =      68.46

  DATE     ANEMOMETER    FASTEST MILE WIND  SPEED  CALCULATED  FASTEST MILE
          ELEVATION(FT)  AND DIRECTION  (RECORDED  WIND SPEED AT 10M  ABOVE
                         AT ANEMOMETER ELEVATION)  GROUND (CORRECTED SPEED)

03/17/45      45.                52.  W                    49.
03/09/46      45.                47.  W                    45.
05/25/47      45.                56.  W                    53.
04/27/48      45.                56. NW                    53.
09/18/49      45.                45.  W                    43.
12/07/50      45.                50. SE                    48.
07/05/51      45.                72. NW                    68.
01/18/52      45.                60. NW                    57.
12/10/53      45.                42. NW                    40.
04/27/54      45.                57.  W                    54.
```

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RETURN PERIOD    PREDICTED EXTREME WIND    PREDICTED EXTREME WIND    ESTIMATED      ESTIMATED
 (IN YEARS)        BASED ON OPTIMAL              BASED ON            STAN. DEV.     STAN. DEV.
                 EXTREME VALUE TYPE 2.     EXTREME VALUE TYPE 1     SAMPL. ERROR   SAMPL. ERROR
                     DISTRIBUTION              DISTRIBUTION          CRAMER-RAO    METH. OF MOM.
                 (GAMMA =      13.00000)

       2.0              49.65                     49.92                  2.38           2.38
       3.0              53.46                     53.79                  2.91           3.03
       4.0              55.98                     56.27                  3.32           3.57
       5.0              57.89                     58.10                  3.65           4.01
       6.0              59.43                     59.56                  3.92           4.38

       7.0              60.73                     60.77                  4.15           4.69
       8.0              61.86                     61.80                  4.34           4.96
       9.0              62.86                     62.71                  4.52           5.20
      10.0              63.75                     63.51                  4.68           5.42
      10.0              63.75                     63.51                  4.68           5.42

      20.0              69.70                     68.70                  5.72           6.85
      30.0              73.27                     71.69                  6.34           7.68
      40.0              75.86                     73.80                  6.78           8.28
      50.0              77.91                     75.42                  7.12           8.74
      60.0              79.60                     76.75                  7.40           9.12

      70.0              81.05                     77.87                  7.63           9.44
      80.0              82.31                     78.84                  7.84           9.72
      90.0              83.44                     79.70                  8.02           9.97
     100.0              84.46                     80.46                  8.18          10.18
     200.0              91.34                     85.48                  9.25          11.63

     300.0              95.53                     88.41                  9.87          12.48
     400.0              98.59                     90.49                 10.32          13.08
     500.0             101.00                     92.10                 10.67          13.55
     600.0             103.01                     93.41                 10.95          13.93
     700.0             104.72                     94.53                 11.19          14.26

     800.0             106.23                     95.49                 11.39          14.54
     900.0             107.57                     96.34                 11.58          14.78
    1000.0             108.77                     97.10                 11.74          15.00
    2000.0             116.97                    102.10                 12.82          16.46
    3000.0             121.96                    105.03                 13.45          17.32

    4000.0             125.61                    107.10                 13.90          17.92
    5000.0             128.49                    108.71                 14.25          18.39
    6000.0             130.88                    110.03                 14.54          18.78
    7000.0             132.93                    111.14                 14.78          19.10
    8000.0             134.72                    112.10                 14.99          19.38

    9000.0             136.32                    112.95                 15.17          19.63
   10000.0             137.76                    113.71                 15.33          19.85
   50000.0             161.29                    125.32                 17.85          23.25
  100000.0             172.35                    130.32                 18.94          24.72
  500000.0             200.47                    141.94                 21.47          28.13

 1000000.0             213.68                    146.94                 22.56          29.59
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APPENDIX 1

STATIONS AT WHICH THE LARGEST YEARLY WIND SPEED DATA MAY NOT PROVIDE A RELIABLE BASIS FOR PREDICTING EXTREME WINDS

As indicated in some detail, for example, in Reference 4 (p.84), in a hurricane-prone region most of the speeds in a series of the largest annual winds are considerably lower than the extreme speeds associated with hurricanes. It may then be argued that in hurricane-prone regions the series of the largest annual speeds may not, in certain cases, provide useful statistical information on winds of interest to the structural designer, much in the same way as the population of a first-grade classroom -- which might include a teacher -- is of little use in a statistical study of the height of adults.

For this reason caution is in order in using the results of the statistical analysis for the following stations at which hurricane winds may occur:

Jacksonville, Florida
Key West, Florida
Tampa, Florida
Savannah, Georgia
Boston, Massachusetts
Nantucket, Massachusetts
New York, New York
Cape Hatteras, North Carolina
Wilmington, North Carolina
Philadelphia, Pennsylvania
Block Island, Rhode Island
Brownsville, Texas
Corpus Christi, Texas
Port Arthur, Texas
Norfolk, Virginia

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16. ABSTRACT *(A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here.)*

The purpose of this report is to present information on recorded and predicted wind speeds at 129 airport stations in the contiguous United States at which reliable records are available over a number of consecutive years. This information is provided to serve as basic documentation from which appropriate decisions can be made on values of design wind speeds to be specified in building codes and standards or on specific projects. Included in the report are: recorded wind speeds and anemometer elevations; predicted wind speeds based on probability distributions of the largest values; estimates of the sampling errors inherent in the predicted wind speeds; a description of the statistical procedure used in the analysis of the data; and a discussion of the results of the analysis.

17. KEY WORDS *(six to twelve entries; alphabetical order; capitalize only the first letter of the first key word unless a proper name; separated by semicolons)*

Building (codes); probability distribution functions; statistical analysis; storms; structural engineering; wind pressure; wind speeds.

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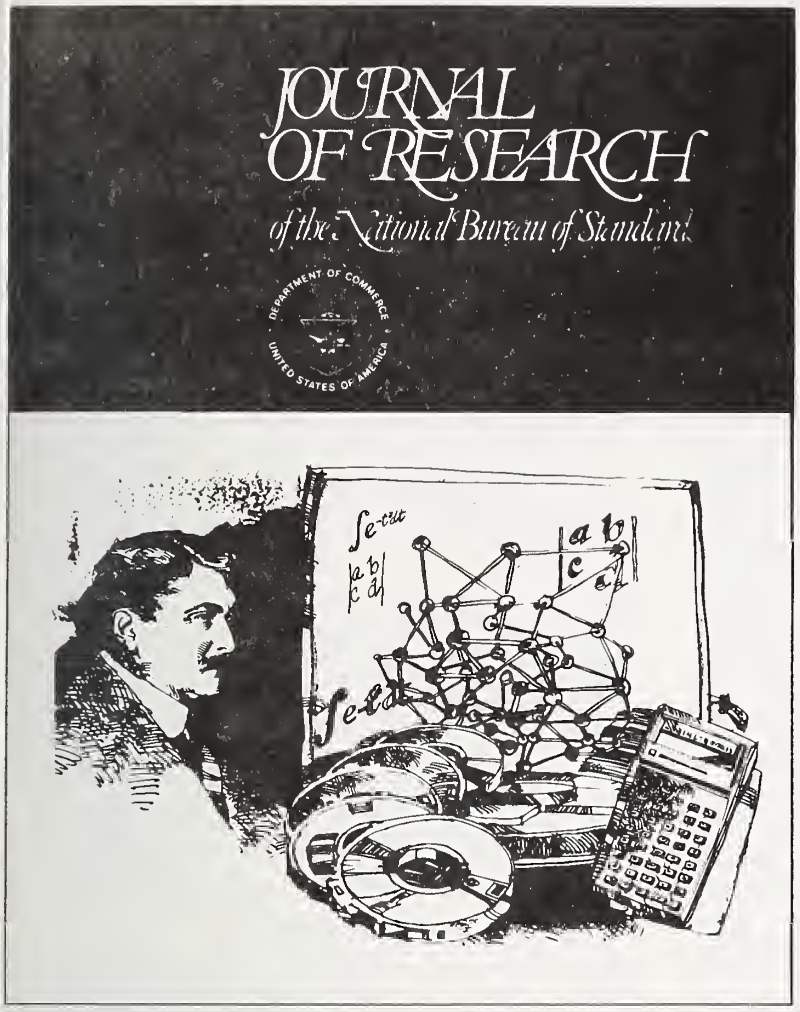

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